Remarks
ON
6657 ADMINISTRATIONS OF ANÆSTHETICS CONDUCTED AT THE LONDON HOSPITAL DURING THE YEAR 1897.

In three Clinical Lectures delivered at the Hospital,

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LECTURE I.

Delivered on Feb. 4th, 1898.

GENTLEMEN,—On Jan. 1st, 1897, a system of recording the anæsthetics administered throughout this hospital was initiated and I propose to lay before you the results of the year's work. I may here say that the system which has been adopted is a very simple one. Throughout the hospital, in the operating theatres, in the out-patient departments, and in the wards record books have been distributed and these have been filled up with brief particulars of each case. In addition to these books special tabular forms, each form being intended for but one case, have been kept in the chief operating theatre and in the out-patient departments to be used under the supervision of Dr. Probyn-Williams or myself by students engaged in the practical part of the anæsthetic course. In looking over these forms, which are furnished with very comprehensive headings, I find a large amount of valuable material and I therefore propose to bring this to your notice. Whilst this clinical work has thus been in progress the physiological aspects of anæsthesia have, as you are aware, been receiving the fullest consideration at the hands of Dr. Leonard Hill and Mr. Barnard, and I shall have occasion to refer subsequently to their investigations. You will see upon the board a condensed statement of the anæsthetics which have been administered.

Anæsthetics Administered in the London Hospital from Jan. 1st to Dec. 31st, 1897.

	Cases.
Ether	2910
Nitrous oxide	1362
*Chloroform	677
A.C.E.	510
*Ether followed by chloroform	293
*Nitrous oxide and oxygen...	240
*Nitrous oxide followed by ether	220
Ether followed by A.C.E.	82
*Nitrous oxide, ether, and chloroform in succession ...	68
*A.C.E. followed by ether	35
Other successions	93
Not stated	167
Total	6657

I shall in a subsequent lecture place before you the cases in which dangerous symptoms arose. In the meantime I introduce this preliminary table with the object of directing your attention to certain of the anæsthetics and methods of anæsthetising referred to in it. I shall to-day limit my remarks to the anæsthetics marked with an asterisk in the table—namely, chloroform, ether followed by chloroform, nitrous oxide and oxygen, nitrous oxide followed by ether, nitrous oxide, ether and chloroform in succession, and the A.C.E. mixture followed by ether. Chloroform was administered in only 677 out of the 6657 cases. Several years ago this anæsthetic was in routine use; but experience has tended to somewhat shake our confidence in it for general employment. As to the apparatus required in the administration of chloroform let me in the first place warn you against the attractive but misleading advertisements of certain recently devised chloroform inhalers. If a man cannot trust himself to administer chloroform in graduated quantities from a Skinner's mask there may perhaps be some excuse for him using one of the numerous modifications of Junker's apparatus. But it is better to give to the patient that share of attention which you would otherwise bestow upon your inhaler. Simplicity and cleanliness are of the first importance and a Junker's apparatus should be employed only in midwifery cases and in operations upon the mouth, throat, and nose, where it is useful and essential. For giving chloroform in the ordinary routine way there is nothing better than a Skinner's mask. In the next place let me say a few words as to the general effects of chloroform as an anæsthetic. It is important, as a case to which I shall refer in a later lecture most clearly proves, to carefully examine the chest before giving an anæsthetic; but you will not necessarily be able to tell from the most careful examination of the chest how your patient will behave under chloroform. Experience has shown that more depends upon what I may term the type of your subject than upon the state of his heart or lungs. Certain patients belong to certain types and these patients take anæsthetics in a particular way. I do not mean to say that the presence of this or that form of visceral disease may not have a very material influence in modifying the usual phenomena of chloroform, but the type of the subject is the most important element in determining what course the phenomena of the administration will take. Let us suppose that we have before us two patients in a fair state of health but belonging to opposite types. One of them is a middle-aged man of powerful build with a thick neck, accurately meeting teeth, and a somewhat imperfect nasal air-way. The other is a rather spare woman with defective teeth but a perfectly free nasal air-way. Now although you may give your chloroform in precisely the same way to each of these patients you will obtain a totally different set of phenomena. Had each patient been submitted to a rigorous medical examination at the hands of a physician he could only have reported the absence in each case of any discoverable visceral disease. The stethoscope would not in such patients have been able to predict the phenomena of anæsthesia. In the first case there would probably be a considerable degree of muscular rigidity and struggling, and an intercurrent state of asphyxia, more or less pronounced, would tend to complicate the administration. In the other case the patient would probably pass into a quiet sleep without resistance or the slightest difficulty from the respiratory side. If you had compared the two hearts by means of the stethoscope before the administration you would perhaps have found that the heart of the man was acting more vigorously than that of the woman, and supposing you had taken the relative cardiac states into consideration you might have argued that the patient with the stronger heart action would take the anæsthetic rather better than the other. Experience has shown, however, that the exact reverse is the case. Other things being equal, the stronger the patient the more trouble will you be likely to have with your anæsthetic. By referring to the records of the committee of the Royal Medical and Chirurgical Society and to the observations and figures of Kappeler you will find that deaths from chloroform are most common in the middle period of life when men are most vigorous and that more men die than women under this anæsthetic. You will also notice that chloroform is most lethal during the early stages of its administration and that a very large proportion of chloroform accidents have occurred in connexion with minor operations which, I take it, are most common in vigorous subjects.

Now why should such subjects be the worst? The explanation is, I think, this: that during the passage from imperfect to perfect anæsthesia their muscular systems are thrown into a condition of spasm, and this introduces an element into the case which is wanting in less powerfully developed patients. In many of the cases of which I have notes this point come out clearly. Hill and Barnard have, in their recent researches, again drawn attention to the fact that deaths which take place comparatively early in chloroform administration are usually due primarily to rigidity, struggling, and "holding the breath"; secondarily to a considerable quantity of the anæsthetic being taken in during the succeeding respirations, so that, finally, the right heart, already over full and distended, is paralysed by the chloroform carried directly to it. MacWilliam, Gaskell, Shore, Hill, and Barnard are all in accordance as to the depressing effect which chloroform may produce upon the heart itself. They have shown that varying degrees of cardiac dilatation may be brought about by this anæsthetic and that it is this dilatation of the cardiac cavities which renders chloroform a less safe anæsthetic than ether. Everyone who has carefully followed the controversy between these observers and Surgeon-Lieutenant-Colonel Lawrie will, I think, agree that

the ground held so tenaciously by the chief exponent of the Hyderabad doctrines has been irrevocably undermined by the arguments of the opposite side.

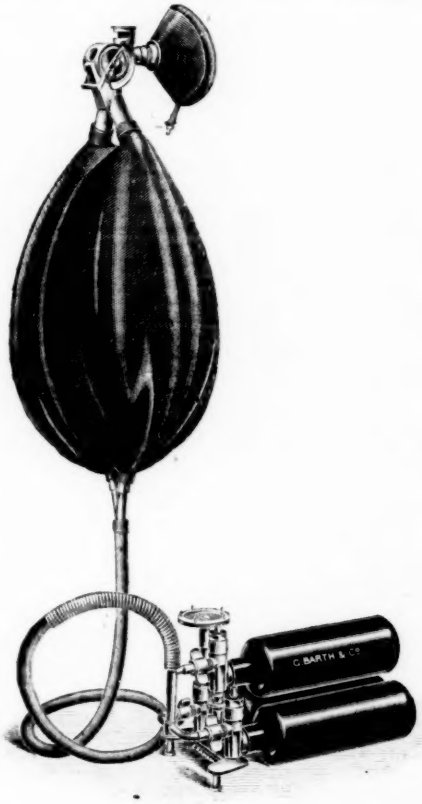
Let me here say a few words from a clinical standpoint with regard to respiration under chloroform. There is no doubt that the respiration should be carefully watched throughout and that every breath should be heard or felt. Watching the patient's chest or abdomen, as recommended by the Hyderabad Chloroform Commission, is a fallacious guide, because, as can be demonstrated with the greatest ease, the thoracic and abdominal movements of respiration will persist even though no air is entering or leaving the chest. It is of paramount importance to avoid all obstructions to breathing except that very minor degree to which I shall in a moment allude. Speaking in general terms, one may say that obstructed breathing is best relieved by unlocking the teeth and pushing the lower jaw forwards. A minor degree of obstruction, recognised by a softly snoring sound, is, however, rather a favourable element than otherwise, because this slight obstruction keeps the respiratory apparatus freely and audibly working and hence the circulation is well maintained. I need not remind you that free thoracic movement has a very material influence in the maintenance of a good circulation. Very tranquil or almost imperceptible breathing may arise under chloroform altogether independently of an overdose of the agent and may cause the inexperienced anæsthetist some anxiety. Such a condition is most common in patients with perfectly free respiratory passages and is most liable to come on after a phase of respiratory excitement. It is rarely if ever met with in patients with such affections as enlarged tonsils, adenoid growths, catarrhal diseases of the air-passages, emphysema, pulmonary phthisis, &c., because the already present tendency to obstructed or exaggerated breathing increases under the anæsthetic. It is more common under chloroform than ether (although I have notes of its occurrence under the latter) owing to the more irritant effect of ether, to the greater secretion of mucus, and to the necessarily greater extent to which air is withheld during the administration. The tranquil breathing of partial or moderate anæsthesia is of particular importance because, unlike the analogous condition under ether, it is liable to lead to pallor and pulse-feebleness. The explanation, doubtless, is that the heart of the chloroformed patient is less able to meet the strain thrown upon it by the occurrence of feeble respiratory action than the heart of a patient under ether. It is therefore well that we should do our best to avoid extremely tranquil respiration under chloroform even during light anæsthesia. The best way to accomplish this is to endeavour when once snoring breathing has been induced to maintain it by a proper and moderately free use of the agent. If, however, snoring has never come on or has been allowed to disappear it is a good plan to artificially induce it by gently pushing the lower jaw backwards. The breathing will at once increase in force and circulatory depression will be averted. In some cases the administration of rather more of the anæsthetic will have a similar effect, but the plan which I have suggested is of great service. That patients behave very satisfactorily under chloroform when there is a very minor degree of obstruction is beyond all doubt, but great care must, of course, be exercised in artificially inducing stertor. It is quite possible that during snoring breathing carbonic acid is retained in the blood to a greater extent than in perfectly unobstructed respiration and if so this retention may partly explain the improvement in the patient's condition, for, as Waller has shown by experiments on exposed nerves, there is an antagonism between chloroform and carbonic acid, more particularly during the recovery of the nerve from the effects of the anæsthetic.

Now as to the circulation under chloroform from a clinical point of view. A great deal of discussion has taken place, as you are aware, concerning the advisability or non-advisability of watching the pulse. While a great many persons hold opposite views the Hyderabad Commission have distinctly stated that the pulse should be systematically disregarded. For a long time I was unable to understand why the Hyderabad Commission so strongly insisted upon this clinical dogma and it was not until I myself saw Surgeon-Lieutenant-Colonel Lawrie administer chloroform in this hospital that I realised the situation. I then saw that the anæsthesia with which he worked was not so profound as that which we are in the habit of inducing, at all events in most cases. The exigencies of surgery are such that it is necessary, more particularly in abdominal, rectal, vesical, and allied operations, to keep our patient very deeply anæsthetised. Now if chloroform be administered in such a way that the conjunctival reflex is rarely if ever entirely abolished I quite admit that pulse observations are useless in estimating the effects of the anæsthetic. I would even go further and say that in such degrees of anæsthesia the pulse may mislead an inexperienced administrator, for it may become feeble immediately before vomiting, and such feebleness may be taken as contra-indicating more anæsthetic, whereas it should really call for exactly the opposite treatment. But if chloroform be pushed so that the patient is kept free from all traces of conjunctival reflex for a considerable length of time, you will find that observations on the pulse will help you considerably. When chloroform is given in considerable quantities the arterial tension falls and this may be recognised almost as well on the operating table as in the physiological laboratory. You must not expect every patient whom you place deeply under chloroform to have a thoroughly satisfactory pulse. Nor need you be alarmed at the evidences of the low arterial tension which under such circumstances assert themselves. A certain degree of pallor and a slow and rather feeble pulse are not necessarily indicative of danger. But what I wish particularly to point out is that the pulse of a patient in this condition will greatly help you as to the necessity for giving more or less of the anæsthetic. I have been able to demonstrate this over and over again in the operating theatre. Usually if more anæsthetic be given the pulse becomes slower and feebler; if less be administered the exact reverse occurs. It is under such circumstances as these that observations on the pulse are of great use. If the circulation of profound chloroform anæsthesia be not watched a failing respiration may be the first indication that an overdose is being given. In other words, by carefully observing and correctly interpreting pulse changes it is often though not invariably possible to prevent paralytic respiratory failure.

Let me next direct your attention to the use of ether and chloroform in succession. There is a great deal to be said for this plan of anæsthetising. The principal point in its favour is that the stage of rigidity and excitement, which is the dangerous stage under chloroform, is passed over under the stimulant effects of ether. Fatalities during this stage are practically unknown with ether. Having secured a proper degree of ether anæsthesia chloroform may be substituted; and you will find that by this plan you will obtain a better type of chloroform anæsthesia than if you had given this anæsthetic from the beginning. Under such circumstances as these the resulting chloroform anæsthesia seems to leave little to be desired. I have now adopted this principle for several years and by its adoption I find I am able to use chloroform without the occurrence of those untoward symptoms which are bound to occasionally arise when this agent is given from the commencement of the administration. I regard this development in our methods as one of the most important of recent years. Should the operation be a short one and should the administration of ether be attended by no difficulties little if anything is to be gained by changing to chloroform. But should ether cause cough, embarrassed breathing, or the secretion of much mucus, or should the operation be likely to be a protracted one, a change to chloroform is certainly advisable. Care must, however, be exercised in changing from ether to chloroform and some practice is needed to know how and when to effect the change. If chloroform be administered in the usual way to a patient deeply under ether an undesirable quantity of the more potent anæsthetic may be absorbed by the rapid respiration and brisk circulation which has been brought about by the ether. The rule to be followed is that there should always be some evidence of the patient having emerged from ether anæsthesia when the chloroform is applied. Generally speaking the conjunctival reflex should be present when the change is effected. In most cases, and especially in the case of abdominal operations, the change should be made before the operation is begun, otherwise the surgeon may be inconvenienced. After once ether anæsthesia has been properly established very little chloroform will be required to keep up the proper degree of unconsciousness. There is, of course, no objection whatever to the administration of ether being preceded by the A.C.E. mixture or by nitrous oxide in order to spare the patient the taste of ether; but the stage of rigidity should be passed over under the last-named anæsthetic. I have kept notes of a large number of cases in which I have given

chloroform after ether. The result of my experience has been that I now use very much less ether than I did and very much more chloroform. By the system under consideration I believe that it is as safe to keep up the anæsthesia of chloroform as that of ether. Indeed, by changing from ether to chloroform the risk of subsequent bronchial and pulmonary complications is undoubtedly reduced, so that taking this point into account we may perhaps be right in saying that we are safer with chloroform than with ether, always supposing that the primary stages of the administration have been conducted under the latter agent. The circulation and respiration are so well maintained that for the past two years I have given chloroform (preceded by ether) to a very large number of patients in the sitting posture and in no single instance have I had to place the patient horizontally to meet undesirable symptoms. Nasal and throat operations, lasting on many occasions as long as an hour and a quarter, have thus been successfully performed.

I next propose to direct your attention to the use of nitrous oxide and oxygen for surgical operations. The apparatus which I show you is one which I have used in a few cases in this hospital and in a good many cases elsewhere. It is, you will notice, similar to the apparatus which



I have devised for the administration of these gases for dental operations except that the channels for the oxygen are double the size of those in the dental apparatus and that the bags are about three times as large. The box upon the ground contains two cylinders of nitrous oxide and one of oxygen. By turning the handle of the regulating stopcock the proportion of oxygen may be increased or diminished at will. By this system it is possible to keep up nitrous oxide anæsthesia for an almost indefinite time. Although this method leaves little or nothing to be desired for such short operations as those of dental surgery it cannot at present be recommended for use in major operations save in carefully selected cases. It is quite possible, as our knowledge and experience increase, that further developments may render the use of nitrous oxide and oxygen more satisfactory for long operations than it is at present. The two great recommendations of this plan of anæsthetising are that it is the safest at present known and that by its employment the often distressing after-effects of anæsthesia may usually be avoided. But the anæsthesia induced is not so deep as that following the administration of ether, chloroform, and allied agents. The muscular system does not so readily relax as when these latter anæsthetics are used; nor is it always possible to prevent reflex and other movements during the administration. With the object of determining what the sphere of applicability of the method might be I have used it in several surgical cases, but I cannot say that I have been satisfied with the results in many of them. I have, for example, given the two gases in operations for removal of the breast, varicose veins, Syme's amputation, varicocele, removal of small tumours, clearing out the uterus of its fœtal contents, scraping out and packing a renal cyst, removing forceps and iodoform gauze after hysterectomy, dressing painful joints and wounds, many orthopædic operations, incising and removing necrosed bone from the hip joint, removing nasal "spurs," inferior turbinated bones, &c.

The best results which I have had have been with rather debilitated women or children—the patients whom we should expect to behave best under a comparatively light form of anæsthesia. Robust and vigorous male adults, especially those of alcoholic habit or excessive smokers, are not good subjects. In looking over my notes I find that in my three best cases the patients were children between eleven and thirteen years of age and that the operations were respectively Syme's amputation, incising and removing necrosed bone from the hip, and scraping out and packing a renal cyst. In all three cases the patients had had other anæsthetics on previous occasions and had suffered more or less severely from distressing after effects.

In the case in which Mr. Mansell Moullin removed the breast under nitrous oxide and oxygen he also cleared the axilla and excised a small tumour in the flank. The administration lasted thirty-five minutes, no atmospheric air being given during this time. So far as the effects at the time were concerned the case was quite satisfactory, but a good deal of vomiting followed, connected possibly with the patient having had beef-tea only three hours before the administration. In other comparatively unsatisfactory cases inconvenient reflex movement and rigidity have manifested themselves during the inhalation. As with chloroform and ether, the effects produced depend almost exclusively upon the type of subject.

With your permission I should like to give you notes of one of the three most successful cases (the Syme's amputation), although, strictly speaking, the case should not be included in last year's summary. The patient was a female child aged eleven years. She had been suffering for several weeks with tuberculous disease of the right tarsus. Although her general condition was fair she had had repeated febrile attacks. Her heart's action was rapid, but there was nothing else worthy of note. She was a cheerful, thin, rather flushed child, with light-brown hair. The following notes were kindly taken for me by Mr. J. W. E. Cole whilst I was administering the gases. At 3.20 the administration was begun. At 3.21.30 there was slight conjunctival reflex, the arms were just relaxed, and the colour was good. At 3.22 there was no conjunctival reflex and the operation was begun. At 3.24 the arms were rigid and the colour was good; the indicator was at "10." At 3.24.30 the forehead was moist and the pulse was 140. At 3.26 the arms were more relaxed, breathing was regular, and there was no stertor. At 3.26.30 the arms were quite relaxed. At 3.27 the legs were moving slightly; less oxygen was given. At 3.27.30 the breathing was quicker and the fingers were moving. At 3.29.30 the tibia was being sawn through; there was no reflex movement and no effect on the pulse. At 3.31 corneal reflex was present; there was no conjunctival reflex. At 3.34 the pulse was 148; there was slight leg movement; the patient seemed to do best with the indicator at "7" or "8." With the indicator at "7" breathing was a trifle fast. At 3.35 the pupils were moderately small. Dressings were applied. The face-piece was removed. At 3.35.20 the patient opened and shut her eyes when requested. At 3.36 she said that she had no pain, smiled, and looked happy. She had no headache or giddiness. There were no after effects of any kind.

In the other two cases the results were almost equally

satisfactory. With regard to the child with hip disease I may say that he had had anæsthetics on several occasions and had been violently sick afterwards. He had been suffering from pyrexia for several weeks and at the time of operation was thin, very weak and pale, and with a rapid pulse. He had tuberculous disease of the hip and the operation was a severe one considering his condition. It consisted of freely incising, gouging away portions of necrosed bone, and inserting drainage-tubes. A good deal of blood was lost. The administration lasted twenty-six minutes. There was no reflex movement when the incisions were made and both respiration and circulation were well maintained throughout. In the case of the child who had a renal cyst scraped out and drained the administration lasted fifteen minutes. There were slight reflex movements of the arms during the operation but they were not in any way inconvenient. In two or three minutes after the administration was discontinued she was laughing. The after effects of these last two cases were very slight. In each case there was one act of vomiting, but this was occasioned by the patients having had respectively tea and soda-water one hour after inhalation. It is important to avoid all solids and fluids for several hours after.

It is, then, in such cases as these which I have quoted that the use of nitrous oxide and oxygen is to be recommended. The type of subject should be carefully considered, the posture in which the patient must sit or lie must be taken into consideration, and the possibility of slight muscular movement must not be lost sight of. It is also important that a considerable abstinence from all food (five hours) should be enforced. In concluding my remarks on this method I may say that any attempt to systematically employ it in general surgery is, in the present state of our knowledge, to be deprecated. But in certain carefully selected cases such as those to which I have referred there is much to be said in its favour. The use of nitrous oxide before ether has within the last ten or fifteen years come much into vogue and a word of warning is necessary in connexion with the method. Many surgeons imagine that if they obtain the services of an anæsthetist and request him to give "gas and ether" that everything is bound to go well. But the fact is that this plan of anæsthetising, like every other, is applicable and successful in many cases, but highly inapplicable and unsuccessful in others. I have myself come across several patients who have had "gas and ether" given to them with hair-breadth escapes from fatal asphyxia, so that you must not imagine that the plan is suitable in all cases. My remarks more particularly apply to the administration of full doses of nitrous oxide followed by the sudden application of ether. Muscular men, especially men of middle life who have become rather obese, should in my opinion never be anæsthetised by this last-named method. If you wish to employ "gas and ether" in adult male subjects only a small quantity of nitrous oxide should be used and ether should be gradually added to it. The plan of administering a full dose of nitrous oxide and changing to ether is, however, very useful in children and in women provided that there are no contra-indications to ether in the patients.

The use of nitrous oxide, ether, and chloroform in succession deserves your careful attention. Although the method is undoubtedly rather elaborate it is an excellent one from many points of view. It should only be employed, however, by those who have had a good deal of experience in anæsthetising and who fully realise what the objects of the succession are. The initial anæsthetic, nitrous oxide, is given because it is not unpleasant to inhale, because it rapidly destroys consciousness, and because it prevents struggling. The intermediate anæsthetic, ether, is of use because should any rigidity or suspended breathing arise just before deep anæsthesia supervenes the circulation will remain unimpaired by the strain imposed upon it and because the stimulant effects brought about by the ether persist for a considerable time whilst chloroform is being given. And, lastly, the final anæsthetic—chloroform—is administered because of the quiet and deep anæsthesia which it produces, because of its great convenience, and because of the rarity with which bronchial and pulmonary after-effects are met with after its use. Given that no special contra-indications exist I believe that there is no better plan of anæsthetising than this.

The only other sequence of anæsthetics which I shall consider to-day is that of the A.C.E. mixture and ether. Many patients object to the accurately fitting face-piece which is essential in administering nitrous oxide, and, as I have already pointed out, there are certain patients who should not be anæsthetised by "gas and ether." Under such and many other circumstances it is very useful to commence your administration with some of the A.C.E. mixture upon an open Skinner's mask; after a couple of minutes a Rendle's mask with more of the mixture upon it may be substituted; and immediately any rigidity begins to show itself the Rendle's mask may be exchanged for an Ormsby's inhaler charged with ether. By this plan I have been enabled to successfully anæsthetise without any difficulty many so-called "bad subjects," middle-aged and powerfully built men with double-chins and thick necks, the patients sinking into deep anæsthesia without any of those obstructive and spasmodic asphyxial phenomena which are bound to arise in such subjects with "gas and ether."

THE ETIOLOGY AND TREATMENT OF SUPPURATIVE DISEASE OF THE FRONTAL SINUSES.[1]

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THE frontal sinuses are two more or less irregularly shaped cavities placed between the inner and the outer tables of the skull in close proximity to the root of the nose. Their size varies immensely, in some cases being quite small and rudimentary, in other cases attaining large dimensions. The external appearances of the part, however, afford no real clue to the size or shape of the underlying sinuses. The two cavities are by no means always symmetrical. Upon one side the sinus may be small while upon the other side it is large, it may be present upon the one side and absent upon the other, or both sinuses may be completely absent. Gallemaerts[2] found that as a rule the right sinus was larger than the left. They are separated from one another by a septum usually bony, sometimes fibrous, and occasionally partly bony and partly fibrous. As a rule this septum is quite complete. It may become perforated as the result of a pathological process, but rarely, according to Killian,[3] is an anatomical perforation found.

The anterior wall of the sinus is the thickest wall, the orbital or inferior the thinnest, while the posterior or cranial occupies an intermediate position. There is no appearance of the sinuses before the seventh year and their full development is not complete until the twenty-first year. The evolution of the frontal sinuses at the seventh year is, as has been pointed out by Wenzel, ascribed to the fact that at this age the brain has arrived at its full size. Up to this time the internal carotid artery is considerably larger than the external, but shortly after full development of the brain has occurred a sensible diminution in its calibre takes place and a rapid and large increase is apparent in the external carotid and its branches. The bones of the face, the teeth, and the outer table of the skull, now grow rapidly and the internal table being at a standstill large spaces occur between these two tables and hence the frontal sinuses.

The sinuses are lined by a mucous membrane in direct continuity with that lining the nasal fossæ—thin, closely adherent to the underlying bone, and pale in colour. In the great majority of cases the sinuses communicate with their respective nasal fossæ by means of an irregularly shaped passage—the infundibulum—opening into the anterior part of the middle meatus just in front of the bulla ethmoidalis. At times, however, they communicate with the anterior ethmoidal cells of the same side and so with their respective infundibula. In all cases they communicate, either directly or indirectly, with the corresponding nasal chamber, the infundibular opening being situated in the middle meatus slightly in front of the nasal opening of the maxillary antrum, the ostium maxillare. The relation of these two openings to

[1] A paper delivered before the Manchester Medical Society on Feb. 2nd, 1898.

[2] Policlinique de Bruxelles, Nov. 13th, 1896.

[3] Münchener Medicinische Wochenschrift, Aug. 31st, 1897.

one another is not only interesting anatomically but is of the greatest possible importance clinically, for at times the one cavity will be found to be in direct communication with the other by means of a small groove or gutter of mucous membrane. In seven heads examined by Dr. Fillibrown, of Boston,[4] the infundibulum instead of terminating in the middle meatus was continued as a half tube which had a direct termination in the orifice of the maxillary sinus. Should such an anatomical condition be present it is easy to see how pus secreted from the mucous membrane lining the frontal sinus would first of all flow directly into the maxillary antrum and then when this cavity was full to overflowing into the middle meatal fossa. It is also quite possible to imagine how in cases of antral suppuration capillary attraction may draw secretion upwards along this groove and so cause infection of the frontal sinus.

On several occasions I have found in mixed cases—by that I mean cases where both the frontal and the maxillary sinuses were the seat of suppurative catarrh and had been opened by way of treatment—that fluid syringed into the antrum came out at once through the opening in the forehead and, *vice versâ*, that fluid syringed into the frontal sinus came out at once through the alveolar opening. This very intimate relation of the two cavities to one another, a fact not very generally recognised, may serve to explain why some cases of antral suppuration prove so resistant to treatment—viz., because there is a contributory flow of pus from an adjacent sinus, either the frontal or the fronto-ethmoidal, possibly in some cases the actual seat of origin of the antral disease, which must thus be regarded as a secondary complication and not as the primary condition. In one case I have actually seen frontal sinus disease produced by a too vigorous syringing of the antral cavity. In this case the patient syringed the antrum (through an alveolar opening) with such force that all at once he felt severe pains in the forehead. The pains became more intense and the discharge from the nose much more copious than it had been, and when seen a few days afterwards the frontal sinus was found acutely inflamed and suppurating freely, although previously to this accident no frontal sinusitis existed.

The exact relation of the frontal sinus to the anterior ethmoidal region is interesting anatomically and is of the greatest clinical importance. At the recent meeting of the British Medical Association in Montreal Dr. J. H. Bryan,[5] of Washington, in discussing this subject said: "Lying between the ethmoidal cells and the frontal sinus there are a series of cells known as the fronto-ethmoidal cells, which properly belong neither to the frontal nor the ethmoidal cavities, but play a very important *rôle* when either of these sinuses is the seat of a prolonged suppurative inflammation; for in nearly all such cases they are to a greater or lesser degree affected, thereby rendering prognosis of these conditions very uncertain. These cells vary in number from four to seven on either side, and in the preparations I have examined I have been unable to find any communication between them and the frontal or ethmoidal cavities proper. The anterior cells are occasionally found unusually developed, projected into the frontal sinus to such a degree as to diminish the size of that cavity considerably. In some frontal sections I have recently made this projecting anterior fronto-ethmoidal cell is well shown. It will be readily seen that in treating chronic empyema of the frontal sinus we must not limit our investigations simply to that cavity but endeavour to ascertain the condition of these cells also; for if affected, and they generally are, they will be the starting point for a re-infection of the sinus after the inflammation has apparently subsided."

Frontal sinus disease in the form in which it usually comes under the surgeon's attention is not by any means a frequent condition. Dr. B. A. Randall,[6] of Philadelphia, reports that in a practice of over 1200 new patients yearly requiring a nasal examination he has not met with one case of frontal empyema that was strictly his own case, and of 2287 nose and throat cases reported last year from the Brooklyn Hospital only three cases of catarrh of the frontal sinus are mentioned. My own observations lead me to believe that its occurrence is considerably more frequent than this, and since epidemics of la grippe have visited these shores its frequency has, I believe, been very considerably increased.

[4] International Dental Journal, January, 1897.
[5] Brit. Med. Jour., Nov. 13th, 1897.
[6] Medical News, March 6th, 1897.

No doubt simple acute or semi-acute catarrhal frontal sinusitis occurs frequently in connexion with ordinary head colds. Such attacks come and pass away, their presence being practically unobserved except for the dull and persistent headache which for a time at least they give rise to. The fact that the excretory duct of the sinus opens at its lowest level probably saves many a case from becoming troublesome, no tension being produced. True acute attacks with distension of the sinus are undoubtedly rare, but chronic or latent empyemata with acute or subacute exacerbations are I venture to think not so infrequent as is usually supposed.

Acute catarrhal frontal sinusitis usually arises as an extension of an acute catarrhal rhinitis and more especially as a sequel to an acute specific rhinitis of influenzal origin. The attack may pass off rapidly within a day or two; it may lead to acute distension of the sinus or it may become chronic and purulent. Injuries and the introduction of foreign bodies—larvæ, snuff, &c.—are occasionally exciting factors in its production. When acute the symptoms are severe pain over the sinus and forehead, a sense of fulness and weight in the head, and a marked increase of pain, especially when stooping, coughing, or performing any unusual effort. The attack may suddenly come to an end with a discharge of a clear serous or a serosanguineous fluid from the corresponding nasal passage. Such attacks of acute sinusitis are usually unilateral. In the way of treatment rest, warmth, and sedatives are indicated. Locally an ice-bag applied over the sinus will be found useful, as also will an intra-nasal spray of a 5 per cent. solution of cocaine or of a ½ per cent. solution of ichthyol, with the idea of depleting the nasal mucous membrane and so of widening the infundibular passage and promoting more efficient drainage from the sinus. Phenacetin, antifebrin, aconite, and belladonna are all useful in allaying the accompanying headache.

Acute suppurative attacks, although of comparatively rare occurrence, are from a practical point of view of much more dangerous import than are the acute catarrhal. In suppurative attacks the excretory duct of the sinus is prone to get blocked, with the result that distension of the sinus from rapid accumulation of pus takes place, followed by bulging of the bony parietes and occasionally by perforation into one or other of the surrounding cavities. Should distension take place posteriorly symptoms referable to increased intracranial tension will be noted. These symptoms may, however, be very obscure, seeing that in the first instance at any rate the frontal lobes are the parts principally compressed. Should the posterior wall give way as the result of erosion the ordinary symptoms of a suppurative meningitis will supervene or a frontal abscess may result. The inferior or orbital wall being the weakest boundary of the sinus distension most usually occurs towards the eyeball, with the result that it may be displaced or, if perforation has taken place, suppurative orbital cellulitis may supervene. Germann[7] says that primary phlegmon of the orbit is very rare in comparison with that due to perforation of the orbital walls, and that affections of the nasal accessory sinuses play an important *rôle* in the production of these perforations. In addition to certain definite nasal symptoms, such as the presence of a purulent discharge, impeded nasal respiration, &c., deviation of the eyeball downwards and outwards would point to an affection of the frontal sinus or ethmoidal cells, whilst deviation upwards and outwards would point to maxillary antrum disease.

The most common form of frontal sinus disease met with in practice, however, is the latent form of empyema and it is to this that I specially wish to confine my subsequent remarks. With regard to its etiology it may undoubtedly be set up as the result of a previous catarrhal affection of the sinus when for some reason or other drainage has been interfered with and retention more or less complete has taken place. This more especially applies to cases having an influenzal basis. It may arise also in the course of any of the specific fevers or syphilis or it may be secondary to obstructive nasal lesions, to extension of disease from one of the adjoining sinuses, or as the result of traumatism. In my own experience I have found in all but one case that latent empyema of the frontal sinus was associated with latent empyema of either the ethmoidal labyrinth or of the maxillary antrum. Which may have been the first sinus to become affected is not, of course, always possible to say at the time such cases usually

[7] Annales d'Oculistique, Novembre, 1897.

come under observation, but the fact as it stands is at any rate very significant. It has been stated by Zuckerkandl that he has never met with a single case of frontal sinus disease where one or other of the nasal accessory sinuses was not similarly involved. Cline[8] also says that in all his cases of frontal or ethmoidal sinusitis the antrum contained pus.

The symptoms of latent empyema of the frontal sinus are neither numerous nor well marked. Occasionally a dull heavy feeling hardly amounting to actual pain is complained of over the forehead, aggravated by stooping, by any marked mental effort, and by pressure, especially if pressure be made directly upon the orbital wall of the sinus, which, as already has been said, is its thinnest wall. Pains of a neuralgic character and referable mainly to the distribution of the supra-orbital nerve are at times well marked and are frequently mistaken for ordinary neuralgia. In one of my cases there neuralgic symptoms began regularly at about 10 A.M. and lasted until about 1 P.M., when they passed off, only to return, however, the following day. After opening and draining the sinus these pains entirely disappeared and the general health improved correspondingly. Darrack[9] has called attention to a symptom occasionally met with—an intermittent feeling of falling, hardly a vertigo, but rather a sensation of pitching forward with loss of muscular coördination, a symptom relieved by blowing the nose. The most marked symptom, or rather sign, of the disease is the presence of a purulent nasal discharge. This discharge is intermittent, is frequently very fœtid, is thick and creamy and is to be seen oozing, or sometimes actually flowing, from the neighbourhood of the anterior portion of the middle turbinated body. An important indication of frontal sinus suppuration taken in conjunction with other symptoms and signs is the presence of a tumefied or polypoid condition of the mucous membrane covering the anterior end of the middle turbinated body, as also is a tumefied appearance of the septal mucosa opposite the anterior end of this same body. This last-named indication has not been much commented upon but in several of my cases has been well marked.

Even with these various symptoms and signs a definite diagnosis of frontal sinus suppuration is open to doubt and, I believe, is always so until the sinus has been opened and explored. The great practical difficulty in cases of unilateral purulent nasal discharge is to ascertain the exact source of the flow of pus. The sources from which pus may come (I am referring just now to suspected disease of one or other of the nasal accessory sinuses) are the maxillary antrum, the anterior ethmoidal cells, the fronto-ethmoidal cells, the frontal sinuses, the posterior ethmoidal cells, and the sphenoidal sinuses. As pus from the two last-named cavities in almost all cases flows to the posterior nares and is to be seen by posterior rhinoscopy I do not propose to say anything more about it. What we have to decide when pus is seen by anterior rhinoscopy in the region of the middle meatus is from which of the first four named cavities it is proceeding.

By a process of exclusion we may eliminate at any rate the participation or otherwise of antral disease. Thus transillumination may reveal a perfectly translucent antral cavity, while in exceptional cases where the results of transillumination are doubtful we may puncture and wash out the cavity by way of the inferior meatus with a Grunwald's or Lichtwitz's trocar and cannula or we may attempt to wash out the sinus through its natural opening and thus definitely ascertain the presence or absence of any purulent contents. The real practical difficulty is to decide whether the ethmoidal labyrinth or the frontal sinus is the part involved, and I venture to say that with our present means of diagnosis it is not possible to be dogmatic upon the point. It is undoubtedly possible in some cases to wash out the frontal sinus by means of a specially bent cannula introduced through one of the anterior nares with or without resection of the anterior end of the middle turbinated body, but this proceeding is not only difficult and uncertain but is also not free from actual danger. Transillumination of the frontal sinus has also been employed and has been strongly advocated by Vohsen and other observers, but I cannot say that in my own experience its employment has yielded reliable results. For the purpose a Cadwell's electric lamp is used. We are thus left in the position of being unable to say definitely which of these sinuses, the frontal or the ethmoidal, or the two combined, is the real *fons et origo mali*, and the relation of this difficulty to the question of treatment I shall speak of presently.

Latent empyema of the frontal sinus may run an extremely chronic course and may be attended by few symptoms beyond occasional headache or neuralgic pains and the presence of a unilateral purulent nasal discharge. Should, however, obstruction to the outflow of pus take place, symptoms of great gravity may supervene. Such obstruction may be due to the formation of polypoid masses around the walls of the infundibular tract, to an œdematous and swollen condition of the mucosa covering the middle turbinated body, or to the supervention of an acute sinusitis engrafted upon an old-standing purulent affection of the sinus with consequent œdema. Distension of the walls of the sinus may be subsequently followed by erosion (usually the posterior wall) and by the escape of pus into the interior of the cranium followed by an acute basal meningitis or extra-dural abscess. Or, again, an abscess in the frontal lobe may be produced without the occurrence of any bone lesion, just as in the same way as at times in chronic suppurative middle-ear disease temporo-sphenoidal abscess is produced, the pathogenic organisms being carried directly by way of vascular or lymph channels to the interior of the cerebrum. I have myself seen a case of frontal abscess due to frontal sinus disease and also a case of basal septic meningitis and septic thrombosis from the same cause. Similar cases have been recorded by Botey,[10] Blessig,[11] Forrestier,[12] Rafin,[13] and others.

The treatment of frontal sinus suppuration may be divided into the non-operative and the operative, the intra-nasal and the extra-nasal methods. The non-operative treatment consists in simply keeping the nasal cavity as free from all purulent secretion as possible by frequent irrigation with warm antiseptic lotions or in washing out the sinus by means of a specially constructed cannula. The cannula is passed up between the middle turbinated body and the septum as nearly along the infundibular passage as possible and as can be judged by the sense of touch until it is supposed to have entered the sinus. By means of a syringe irrigation is now performed. This method is, however, not only very difficult and uncertain but is a method not altogether free from danger. It is also open to the objection that it is a form of treatment which the patient is unable to make use of, and although it may be regarded by some surgeons as a diagnostic adjunct for establishing the presence or absence of pus in the sinus it cannot be seriously looked upon as a useful therapeutic agent. Chiari,[14] however, it may be stated, has recorded the cure of two cases of chronic suppurative catarrh of the sinus with frontal pains by means of this plan. In all cases where œdematous or polypoid mucous membrane is present in the vicinity of the infundibular opening an escharotic or the electro-cautery should be applied to pin down this redundant tissue, and thus to facilitate intra-nasal drainage. Antistreptococcic serum has also been employed in the treatment of sinus suppuration, and Boucheron[15] says that when such suppuration is due to pure streptococcic infection rapid improvement has followed its injection. Stoker[16] claims for oxygen gas a place in the therapeusis of this affection, but in the case recorded by him I think it is open to question whether the pus really did proceed from the frontal sinus.

Operative treatment.—Removal of the anterior end of the middle turbinated body has been recommended by many observers with the idea that more room is thereby afforded not only for the egress of all purulent secretion from the sinus but also for the application of remedial agents and for the better carrying out of intra-nasal irrigation. My experience of this method of procedure is such as to lead me to believe that it is of itself rarely, if ever, sufficient and that its only virtue consists in the fact that it at any rate wards off the tendency to obstruction of the duct with consequent distension of the sinus.

Schäffer's method of opening the frontal sinus from the

[8] The Laryngoscope, August, 1897.
[9] Medical News, March 6th, 1897.

[10] Journal of Laryngology, February, 1897, p. 78.
[11] Petersburger Medicinische Wochenschrift, 1897, No. 26.
[12] Archives Internationales de Laryngologie, Otologie et Rhinologie, Juillet, Août, 1897.
[13] Lyon Médicale, Juin 13, 1897.
[14] Journal of Laryngology, January, 1896.
[15] Archives Internationales de Laryngologie, Otologie et Rhinologie, No. 6, tome ix.
[16] Journal of Laryngology, October, 1896, p. 187.

interior of the nose by means of curette or trocar pushed upwards through the floor has very properly, I think, been given up on account of the great risks attending its employment. I need only to refer to the fatal case recorded by Mermod[17] to impress this upon your minds. This method appears to me also to be founded upon an entirely wrong conception. What we should, I think, aim at in the treatment of nasal sinusitis is not to grope about in the dark with probe or cannula but to rest our methods of treatment upon true surgical principles, freely opening so far as is possible the diseased cavity so that none of its recesses escape inspection and radical treatment.

Where it has been decided that free drainage of the sinus must be secured I venture to think that an external operation will be demanded, the main objects of which operation are: (1) to secure a sufficient opening for the inspection and local treatment of the mucosa—in such cases often granular or polypoid, and (2) for the establishment of thoroughly efficient fronto-nasal drainage. Before, however, actually considering the various methods of external operation as at present performed let us pause for a moment and ask ourselves, "What are the indications for operating?" These indications may be summarised briefly as follows: (1) Retention of pus within the sinus unrelieved by simple and intra-nasal methods of treatment—e.g., leeching, irrigation, &c.; (2) the persistence of a purulent discharge from the region of the sinus after the exclusion of the participation of the other accessory sinuses in the production of this discharge; (3) the presence of symptoms of cerebral irritation or of cerebral compression; and (4) the presence of severe neuralgic pains with accompanying impairment of general health.

The position of the surgeon in these cases is very much the same as is his position when dealing with suppurative disease of the mastoid cells and antrum. In acute cases and in cases where retention of matter has taken place from one cause or another the indications for or against operation are sufficiently clear. In chronic cases where there is no retention of matter but a constant flow of germ-teeming pus we have a much more difficult problem to solve. If we, however, consider the important anatomical relation of the sinus we will, I think, regard with much suspicion any suppurative inflammation going on in a part in close relation to the brain, thereby rendering possible the occurrence of thrombosis of its sinuses, infection of its coverings, and metastatic abscess in its substance, quite apart from the general risks of pyosepticæmia or impairment of general health, &c.

The sinus may be opened from the outside by one of two incisions: (1) an incision along the supra-orbital ridge, or (2) a median incision over the glabella in the mid-line of the forehead. The first incision is the one more usually adopted in cases where the prominent symptoms are eye symptoms, cases usually seen by the ophthalmic surgeon, and the second in cases where the main symptoms are nasal, cases usually seen by the rhinologist. It is not my intention to speak of opening the sinus by means of a supra-orbital incision, as I have no practical experience of its utility or otherwise. In all cases in which I have thought an operation necessary, now numbering fifteen—one subacute and fourteen latent—I have used the median incision so strongly recommended by Mayo Collier[18] and others. The incision is made from the root of the nose upwards in the middle line for from about one inch and a half to two inches and right down to the bone. The periosteum is at once pushed aside and retractors are slipped in, so that a considerable amount of bone is bared and in sight. Some prefer to open the sinus by means of a trephine, the pin being placed in the middle line. In this way a portion of both sinuses is exposed, an advantage in cases of bilateral empyema, but to my mind a distinct disadvantage in cases of unilateral disease. For my own part I have always opened the sinus by means of a gouge and mallet, working carefully and under good illumination, the light being reflected by means of a forehead mirror from a limelight apparatus directly on to the part. After having carefully chipped away sufficient bone to expose an area of mucous membrane about the size of a threepenny piece I pass a very fine and carefully sterilised probe through the mucosa and turn it round and round in the sinus. If pus be present it soon oozes out by the sides of the probe. If present the mucous membrane is cut or scraped away so as to bring the interior of the sinus into full view. Whatever be the method of dealing with the mucosa I believe it to be of paramount importance to aim at securing, and to secure, free fronto-nasal drainage. To attain this it may be necessary and advisable to remove a portion of the floor of the sinus so as to establish a perfectly free communication with the interior of the nose. This is accomplished by means of a small gouge or a sharp spoon and constitutes what is now generally spoken of as the Ogston-Luc method of operation. The mucous membrane of the sinus, if at all granular or polypoid, should be curetted and then swabbed with a solution of chloride of zinc. Luc[19] advises the daily injection during the first week of a 1 per cent. solution of formol followed later by a solution of iodoform in ether to keep the parts in as aseptic a condition as possible. My experience of this plan of procedure is such as to lead me to warn the patient that possibly a second curetting of the mucosa may be required, and my practice has been, if after a few weeks' careful daily attention the mucous membrane shows a tendency to sprout and to become granular, to at once advise a repetition of the curetting.

In the operation as originally performed by Luc[20] a drainage-tube was inserted through the external opening and brought out through the corresponding nasal passage, whilst daily irrigations were subsequently made until all purulency had ceased, when the tube was withdrawn and the external wound was allowed to close. The closure of such a wound is always followed by a certain falling-in of the tissues and by a varying degree of deformity. To obviate this deformity Luc has suggested that the drainage-tube, which should have a funnel-shaped end, should be drawn down into the floor of the sinus and fixed there, thereby allowing of an immediate closure of the external wound. There can be no doubt of the utility of this method in acute and in semi-acute cases, and even in latent empyemata I believe it to be the best plan, although there is an undoubted risk of re-accumulation of pus within the sinus, of a breaking down of the cicatrix, and of the formation of a small fistulous tract. Still the advantages of an immediate closure of the wound and of subsequent intra-nasal treatment make it worth while, I believe, to run these several risks. Kuhnt advises a complete clearing away of all mucous membrane lining the sinus, special care being taken to clear the floor of all redundant portions so as to avoid as much as posible any blocking of the upper orifice of the fronto-nasal drainage tube. Hebinger,[21] on the other hand, not only clears out all the mucous membrane possible but also bevels down the bony parietes of the anterior wall of the sinus until he has formed a sort of cup into which the superficial soft parts are pressed down and kept in position by means of a bandage. In this way a practical obliteration of the sinus is accomplished. In my own series of cases I have been so impressed by the frequency of an accompanying suppurative ethmoiditis that in my latter operations I have made a point of opening into the anterior ethmoidal region, of breaking down a considerable number of cells, and so of forming a large cavity which can be readily inspected and treated intra-nasally if need be.

The question of a suitable drainage-tube is one not to be dismissed too lightly, as much of the success of the operation will depend not only upon the kind of tube which is selected but also upon its being accurately placed and accurately retained in position. I have tried rubber tubes and tubes made of silver wire and have no hesitation in saying that the rubber tubes have been the more efficient of the two. In the first place, they readily take the very peculiar curve of the infundibular tract and, in the second place, they do not get blocked up by granulations which grow between the coils of the silver wire tube. A rubber tube something like a tracheotomy tube upon a small scale with a slight flange to prevent its slipping away from the floor of the sinus into the nose or an ordinary funnel-shaped rubber tube will be found to answer the purpose.

In the first stages of the treatment daily irrigation is necessary. This is done through the open end of the drainage-tube lying in the nasal cavity and must be done gently so as not to break down the frontal cicatrix. My habit is to have a small piece of rubber tubing fixed to the end of the syringe and of a size considerably smaller than the fronto-nasal tube. This is then passed upwards and towards the

[17] Annales des Maladies de l'Oreille, Avril, 1896.
[18] THE LANCET, June 12th, 1897, p. 1609.
[19] Semaine Médicale, 1894, p. 277.
[20] Transactions of the British Laryngological and Rhinological Association, 1895.
[21] Medical Record, Aug. 7th, 1897.

sinus, and from the fact that a free outflow is provided for no severe pressure in the sinus can be induced.

Just as in treating chronic suppurative disease of the maxillary antrum probably no one solution will be found to answer, so in frontal sinus suppuration it is essential to ring the changes upon such drugs as carbolic acid, resorcin, boracic acid, permanganate of zinc, chloride of zinc, peroxide of hydrogen, &c. As suppuration from the cavity gradually decreases the frequency of the irrigations may be diminished, but on no account should the drainage-tube be removed until all suppuration has been completely arrested for at least ten days. I am convinced that too early removal of the tube is a most serious mistake and necessitates reopening of the wound from the outside as it cannot be otherwise satisfactorily replaced.

Of the 15 cases whose histories form the basis of this paper nine of the patients were males and six were females. In 13 cases the sinusitis was unilateral, in 2 cases bilateral. In 5 cases the right frontal sinus was affected, in 12 cases the left. Of the 5 cases of right-sided frontal empyema it was found that the maxillary sinus of the same side was affected in 2 cases, the ethmoidal labyrinth of the same side also in 2 cases. Of the 12 cases of left-sided frontal empyema it was found that the maxillary sinus of the same side was affected in 5 cases, the ethmoidal labyrinth of the same side also in 5 cases. In both the cases of double frontal empyema double suppurative ethmoiditis was also present. In 1 case of right frontal sinusitis the left maxillary antrum was affected, while in 1 case of left frontal sinusitis both maxillary antra were involved. In 2 cases of left-sided frontal sinusitis double suppurative ethmoiditis was also present. In only 1 case was the frontal sinus the only nasal accessory sinus involved, in all the remaining cases other accessory sinuses were similarly implicated. With the exception of the 1 case of subacute frontal sinusitis, which had lasted for about six weeks before the patient came under observation, all the other cases were truly chronic and had lasted for periods varying from two to thirteen years. The youngest patient treated was aged eighteen and the oldest fifty-three years. 6 cases occurred between the ages of eighteen and twenty-five years, 4 cases between twenty-five and thirty-five years, 4 cases between thirty-five and forty-five years, and 1 case between forty-five and fifty-five years.

The conclusions which I have arrived at from a study of these cases and from certain other cases of frontal sinus disease which I have seen in my own experience and in the practice of various friends may be briefly summarised as follows:—1. In cases of acute frontal sinusitis rest in bed, warmth, local depletion, and intra-nasal treatment should first of all be undertaken. 2. In cases of acute frontal sinusitis with obstructed duct and which do not react to local treatment within forty-eight hours external operation should at once be resorted to. 3. In cases of chronic suppurative frontal sinusitis (latent empyema) it is advisable to first of all give intra-nasal treatment a fair trial—e.g., washing out the sinus when possible, destruction of all redundant and polypoid mucosa so as to facilitate intra-nasal drainage, and the performance of an anterior turbinectomy. 4. In cases of latent empyema where local treatment fails and where attacks of subacute sinusitis recur at intervals an external operation should be performed. 5. In cases of latent empyema where any symptoms of ocular or orbital disease supervene opening and thorough draining of the sinus should be effected without delay so as to avoid the risks of septic inflammation of the orbital contents and loss of vision. 6. In cases of latent empyema where symptoms of cerebral irritation or of cerebral compression are present the sinus should be freely opened from the outside, erosions of the bony parietes carefully looked for, and if necessary an opening made into the cranium so as to explore the region of the anterior cerebral fossa.

Manchester.

BRISTOL JUBILEE CONVALESCENT HOME.—The Bristol Convalescent Home Committee, acting upon the advice of the Sites Committee, has purchased a handsome and commodious building on Durdham Down, now used as a school, and this will be converted into a convalescent home. The building, which is stated to have cost £20,000, faces the Downs with their 440 acres and has three and a half acres of grounds in the rear. With some slight alterations it will be made capable of receiving from 80 to 100 patients.

THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.[1]

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(Concluded from page 392.)

IV. TYPHOID FEVER.

THE method of diagnosis I use in the case of typhoid fever differs entirely from those I have described in connexion with tuberculosis and diphtheria. Here it is not for the bacillus we look but for a peculiar property acquired by the blood of patients affected with typhoid fever. This blood, when brought in contact with living and active cultures of the typhoid bacillus, paralyses the bacilli and causes them to run together and form clumps; the two phenomena of immobilisation and agglomeration constitute the typhoid reaction first described by Widal at the end of the month of June, 1896. Immediately on hearing of this discovery I tested its value on hospital cases and at the end of July, 1896, had already obtained full confirmation of Widal's statements. I devised the method which has been in use in my laboratory ever since, and later I had the pleasure of finding that Widal himself considered it most suitable in every respect. Before using the method in general practice I tried it carefully on some fifty hospital patients during the months of September, October, and November, Dr. Marsden, the resident medical officer at the fever hospital, keeping the patients under observation, and Dr. E. Sidebotham assisting me in this second series of experiments.[2] The results were so satisfactory that in January Dr. Niven determined to use this method in connexion with his work. Since then several other public health departments have applied to the college to have the same facilities granted to them. The number of cases which I can record does not therefore correspond to the work of a full year, but to about ten months in Manchester and less in the case of other towns. The arrangement adopted and methods used can be well understood by reading the following documents.

Public Health Office, Town Hall, Manchester, Jan. 8th, 1897.

DEAR SIR,—At a meeting held on Wednesday, Dec. 30th, 1896, the Sanitary Committee of this city confirmed a resolution passed by the Hospitals Sub-committee that facilities be afforded to medical men in the diagnosis of cases of typhoid fever. The investigations of Widal, whose results have been confirmed by Professor Delépine, make it certain that by means of a small amount of blood, such that the loss of it can make no appreciable difference to the patient, it is easy to tell by a bacteriological reaction whether the patient is suffering from typhoid fever or not. Now by clinical examination it is often very difficult in the early stages of the disease to say whether an illness is or is not typhoid fever.

In consequence of this difficulty cases are not notified sufficiently early to the public health officer to enable the medical attendant and the sanitary authority to take the most effectual measures for preventing communication of the disease from the sick person to members of the same family and to others. Not only so, but many persons are sent into hospital as suffering from typhoid fever who are really affected with other conditions.

Then, moreover, there is no doubt that if the circumstances of the sick are such that they ought to be treated in hospital it is much better for them that they should be removed from home early in the course of their illness.

All these considerations make it matter for great congratulation both to the medical attendant and to the public that bacteriology should lend effectual aid in clearing up doubtful cases of this most difficult malady; and the Sanitary Committee have therefore made a similar arrangement with the Council of Owens College and with Professor Delépine to that which has worked so well in the case of diphtheria.

A number of pipettes are kept at the Public Health Office in the town-hall by means of which a small amount of blood may be obtained from a suspected case for transmission to the pathological laboratory at Owens College. Accompanying each pipette is a paper containing instructions for the obtaining of material and particulars requiring to be filled in.

Medical men are requested to be careful to fill in the particulars asked for as no bacteriological examination will be made in the absence of sufficient information.

Should the bacteriological examination indicate that the case is not one of typhoid fever the fee of 2s. 6d. for notification will be paid just as if no bacteriological examination had been made.

On the other hand, if no bacteriological examination is requested this will be regarded as a proof that the case reported admits of no

[1] A paper read at the Conference of Medical Officers of Health at the Sixteenth Congress of the Sanitary Institute, Leeds, on Sept. 15th, 1897.

[2] See THE LANCET, Dec. 5th and 12th, 1896.

doubt. Applications for pipettes must be made to the Public Health Office. The pipettes must afterwards be forwarded direct to Professor Delépine at Owens College. The diagnosis again can only be obtained from the Public Health Office.

It is, however, the aim of the Sanitary Committee to shorten as much as possible the period between the first report of the case and the receipt by the medical attendant of the bacteriological diagnosis.

If the medical attendant will telephone to the Public Health Office from the nearest police-station a request for a pipette this will be at once sent by messenger to his residence or to the address of the patient, as the medical attendant may desire. If he is prepared at once to take a specimen for diagnosis the messenger will wait to receive the pipette from him charged with the matter to be examined, and will convey it forthwith to the laboratory. The diagnosis will be given to the medical attendant only on the following day. It will be necessary, however, that the pipette reach the laboratory by 1 P.M. on any one of the days Monday to Friday and on Saturday by 10 A.M., otherwise the diagnosis will be delayed by one day. No diagnosis will be given on Sunday.

The expense of the bacteriological examination will be defrayed by the Corporation, and it is hoped that full advantage will be taken of the opportunities thus afforded at the earliest possible period of the illness.

As the bacteriological diagnosis is more difficult during the first week of the disease, a second tube should be sent after the first week if a negative result has been obtained within the first seven days after the beginning of symptoms.

In order that medical men may familiarise themselves beforehand with the procedure which they will require to adopt a copy of Professor Delépine's instructions for taking material is enclosed

JAMES NIVEN, Medical Officer of Health.

[*Enclosure.*]

DIRECTIONS FOR TAKING A SAMPLE OF BLOOD FOR PURPOSES OF SERO-DIAGNOSIS.

1. The skin of the back of the index or middle finger is first washed with soap and water and then with alcohol when possible.[3]

2. Meanwhile the finger can be prepared by causing congestion in one of the usual ways—e.g., by tying a piece of tape, not too tightly, round the root of that finger.

3. Whilst the finger is being cleaned the case containing the pipette is opened by lifting one of the plaster lids and the pipette is removed. About $\frac{1}{5}$ of an inch of the sealed point is broken off with a pair of forceps or otherwise. The point is sterilised by passing it two or three times through the blue flame of a spirit lamp, or for a few seconds *just above* an ordinary gas, candle, or match flame. (A deposit of soot on the glass should be avoided.)

4. The patient should be made to flex the finger as much as possible. The tightened congested skin, just above the root of the nail, should now be sharply pricked with the mounted sterilised needle, which is provided with the pipette. A pretty deep puncture can be made with a sharp needle without the patient feeling it much.

5. A large drop of blood is allowed to accumulate over the puncture; the portion of skin which has been pricked must, of course, be kept as horizontal as possible.

6. With the pipette which is now cold, and without removing the cotton plug from the mouthpiece, as much blood as can be obtained is aspirated gently, or allowed to run into the pipette held horizontally. By squeezing the sides of the finger, a second and sometimes a third large drop of blood may be obtained.

7. After driving the blood away from the broken point of the pipette by aspiration or gentle shaking, the end of the pipette is sealed by holding it in a gas, lamp, candle, spirit, or match flame, so as to heat to redness not more than one-sixteenth of an inch. The point should be held in the flame till it is quite closed.

8. The constricted part of the pipette is then sealed in the same way after being broken across.

9. The tube containing the blood and the mounted needle are replaced in the case, which is again closed with the plaster lid.

10. All particulars are now entered on the label pasted on the case and the case is enclosed in a stamped envelope, addressed: "Bacteriological Laboratory, Owens College, Manchester."

I will now describe the so-called "typhoid outfit" (Fig. 2) as used at Manchester and will explain the apparatus and its use. The wooden case (A) in which the pipette (4) is transmitted by post has already been described in reference to Fig. 1. The guarded needle is made of an external sheath of glass (5) with a special flat needle (6) having an obtuse cutting point projecting $1\frac{1}{2}$ mm. beyond the rounded end of the glass sheath and fixed at the other extremity (7) by means of hard sealing wax; these needles can be thoroughly sterilised by heat and set by holding the needle with sterilised forceps whilst the wax is still soft. The following is a *résumé* of the directions given above for the collection of blood. The pipette is removed from the case and the sealed points are broken and one of them passed through a flame. The finger having been thoroughly washed with soap and water—complete sterilisation of the skin is unnecessary except for experimental purposes—the skin over the back of the last phalanx of one of the fingers is pricked sharply with the guarded needle about a quarter of an inch above the border of the skin covering the root of the nail. A drop of blood being obtained, the sterilised point of the pipette held horizontally is plunged into the drop, the blood runs freely into the pipette (B) (by lateral pressure on the finger it is easy in most cases to obtain enough blood to fill one-third, one-half, or even a greater part of the pipette). When enough blood has been collected the pipette is slightly shaken so as to free as far as possible the point from blood. This point is then sealed in a flame, the constricted part of the pipette (9) being then broken across and sealed also. When the sealed pipette containing the blood (C) reaches the laboratory it is scratched with a file or the edge of a slide at some distance from the blood (12) and the tube is then easily broken across. If desired the blood may be centrifugalised before the pipette is opened. The sterilised platinum loop[4] (D) measuring 1 mm. (internal diameter) can then be introduced through the opened end of the pipette and a drop of serum, or serum mixed with blood corpuscles, can be removed from the pipette and deposited on a sterilised cover-glass (F). It is on account of this part of the manipulation that I use a pipette of a certain diameter and not any kind of capillary pipette; much time is saved and chances of contamination are avoided by this arrangement. The twenty-hours' culture of typhoid bacillus in *neutral bouillon*[5] is poured into a glass capsule (E). Drops of the culture are taken with the sterilised loop as shown in the illustration; the loop must just touch the surface of the fluid and then be brought in contact with the cover-glass in a very slanting position as shown (F). In this way it is easy to obtain perfectly equal drops.[6] After four, nine, or nineteen drops of culture and one drop of serum have been placed on the cover-glass they are mixed together *very rapidly and thoroughly* and the cover-glass is placed film downwards on a sterilised slide. If all these steps are observed absolutely accurate results will be obtained, the proportions of serum being $\frac{1}{5}$, $\frac{1}{10}$, or $\frac{1}{20}$. When smaller

The following is the label on which particulars are entered and which is sent to the laboratory with the specimen:—

Name of Doctor *Lab. T. No.*

Address

Name of Patient *Age* *F.—M.*

Address

Date of Collection of Specimen *Hour* 9 A.M. / 7 P.M. *Date of onset of illness*

Any previous attack of Typhoid Fever? Yes—No. *When?*

Rose Spots? Yes—No. *Spleen enlarged?* Yes—No. *Diarrhœa?* Yes—No. *Delirium?* Yes—No.

Temperature during fastigium? Maximum °F days ago. Minimum °F days ago.

Pneumonia? Yes—No. *Hæmorrhage?* Yes—No. *Albuminuria?* Yes—No.

Other complications?

N.B.—Simply scratch out either "yes" or "no" when a positive answer is possible; when in doubt leave them as they are. Enter Temperature and days in spaces left before and after "° F." Fastigium to extend from observed onset of fever to crisis or lysis.

Directions.—1. Wash the back of the index or middle finger (and dry it carefully). 2. Cause congestion of the finger by constricting it at the root. 3. Remove pipette from case, break the sealed points with a pair of forceps, sterilise one of the broken points by passing it rapidly 2 or 3 times through a flame. 4. Prick skin sharply with the sterilised guarded needle provided (after asking the patient to flex the finger as much as possible), the prick should be made $\frac{1}{2}$ inch above the root of the nail. 5. Allow a large drop of blood to accumulate over the prick. 6. The sterilised point of the pipette (which is now cold again) is placed in the drop of blood, which is allowed to run into the pipette held horizontally. 7. Seal this point of the pipette after driving the blood away from it by gentle shaking. *Only the very end of the pipette must be heated in the flame* (so that the blood be not heated). 8. Seal the other point in the same way. 9. The tube containing the blood and the mounted needle are then replaced in the case, which is closed again. 10. All particulars are entered on this label. The case is enclosed in an envelope addressed—BACTERIOLOGICAL LABORATORY, OWENS COLLEGE.

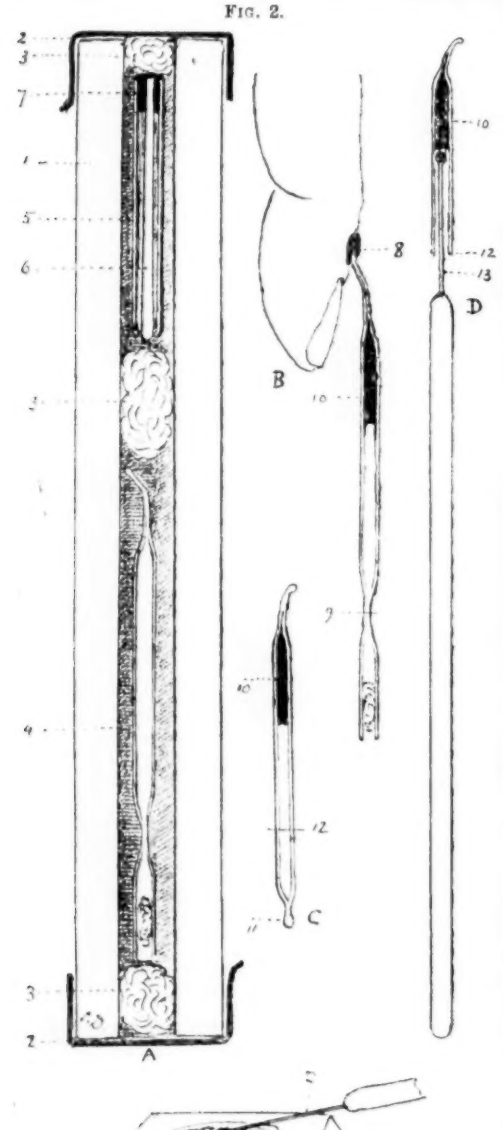
[3] In the first 500 cases, in order to obtain samples suitable for lengthy experiments, I asked that the skin should be thoroughly sterilised. This is not necessary in ordinary routine work. For the same reasons the form of pipette used has now been simplified; it consists simply of a narrow tube drawn to a point at each end, the ends being sealed.

[4] The platinum wire I use is 0·34 mm. thick.

[5] I have on several occasions used emulsions prepared with dead bacilli, but found that living cultures were much better.

[6] The drops of serum removed from the pipette in the way just described are a little smaller than those taken from the surface of the same fluid placed in a capsule or on a glass slide.

FIG. 2.



The so-called "Typhoid Outfit." A, Section of case (1); 2, 2, Antiseptic adhesive plaster; 3, 3, 3. Pads of cotton-wool to prevent damage to pipette (4) and to the glass sheath (5) of the guarded needle (6), held in position by sealing-wax (7). B shows method of collecting blood (8 and 10); 9, Constriction of pipette. C, Pipette as received at laboratory; 11, Where constriction (B, 9) has been broken and the tube sealed; 12, Where tube is opened for examination. D shows extraction of blood from pipette by platinum loop (13). E, Glass capsule containing twenty-hours' culture of typhoid bacillus; 13, Platinum loop. F, Sterilised cover-glass showing method of placing drops on cover glass by means of the platinum loop (13). The first form of pipette used is here represented; in the one now used both ends are alike drawn to a fine point.

proportions are wanted the blood must first be diluted by the same method with neutral bouillon. To obtain drops of serum quite equal to those of culture it is necessary to blow the serum out of the pipette on to a glass slide. In most cases when typhoid fever has reached the end of the first week clear indications of the reaction will already be apparent at the end of one minute and after five minutes will be unmistakeable. In some cases, however, the reaction takes place slowly, so that the preparation has to be again observed at the end of half an hour and two hours. It is then possible to give a positive or negative diagnosis. We make it, however, a rule to examine again the specimen on the following day for our own information. We invariably prepare control specimens to prevent any error. I do not enter here into further details, as I have done so fully in various papers easily accessible.[1]

Between Oct. 10th, 1896, and the beginning of September, 1898, 413 samples of blood have been tested in the laboratory. In 201 cases a positive reaction was obtained and in 198 a negative one; in 14 the reaction was not clear and had to be reported as doubtful; these doubtful reactions were almost always observed in cases in which the blood had been collected before the seventh day of the fever. It may therefore be said that in about 3 per cent. of the cases we failed to obtain definite results. There remain 399 cases, say 400, in which the reaction was evident or absent. Roughly speaking, in 50 per cent. of these the reaction was positive and in 50 per cent. negative. The negative or positive diagnosis was entirely confirmed in cases which were closely followed in hospital; some cases remained doubtful clinically, but whenever symptoms of typhoid fever or of some other disease were unmistakeable the bacteriological diagnosis was found to be correct. We had a total of 115 cases thus controlled in Manchester. I have taken special care to control negative as well as positive results. Since writing on this subject in THE LANCET I have examined the blood of many patients not affected with typhoid fever and have not yet found a single disease which produces in the blood properties similar to those acquired with the blood of typhoid fever patients. I have tested the blood in various septic affections, in tuberculosis, scarlet fever, measles, influenza, carcinoma, sarcoma, &c. Owing to some remarks published by another observer I have tested the blood of several patients affected with jaundice, also placental blood and fœtal blood, and in no case have I seen anything which could be mistaken for Widal's reaction when my method was used.

The cases observed in general practice gave us also very satisfactory results. I need not speak of the positive reactions which were generally accepted. But with regard to our negative results some medical men expressed doubts whilst others wrote afterwards expressing their satisfaction. Out of 108 letters received 88 agreed with our results and 20 disagreed; so that out of a total of 320 cases observed in Manchester and on which we gave a definite opinion in only 20 cases was the clinician in opposition to us. If I admit, as in the case of diphtheria, that the clinicians were right (which we have no special reason to admit in all these 20 cases) and that we were wrong (which is quite possible in a small proportion of cases), the error of bacteriological diagnosis would, on this basis, be 20 in 320—i.e., a little more than 6 per cent., which compares favourably with 50 per cent. doubtful cases as observed clinically. I may say that Dr. Niven has expressed himself highly satisfied with the results already obtained in Manchester.

(Since this paper was read 428 more cases have been investigated in the laboratory, this bringing the number of cases of suspected typhoid fever to 841. The results have continued to be satisfactory; in a number of cases where the clinical symptoms seemed to be at variance with our results the further course of the case has justified the bacteriological diagnosis. Several medical men have undoubtedly refused to accept our negative reports on the ground that the symptoms were absolutely typical of typhoid fever. These, however, have been very few and there has been a marked diminution in the number of dissenters. What is more to the point, however, is that, so far, post-mortem evidence has always proved the bacteriological diagnosis, *whether positive or negative, to be correct* with the exception of a complicated case on which I am not prepared to give a definite opinion, even after hearing the results of the post-mortem examination. I am convinced

[1] THE LANCET, loc. cit. Brit. Med. Jour., April, 1897.

therefore that the method I have adopted as a modification of Widal's original method gives extremely reliable results.)

V. GENERAL CONSIDERATIONS ON THE ORGANISATION OF BACTERIOLOGICAL LABORATORIES IN CONNEXION WITH PUBLIC HEALTH WORK.

I have now given an idea of ways in which bacteriological diagnosis can be made to assist public health work and of the gain of accuracy which may be obtained. I have purposely left aside certain administrative questions which will be of special interest to those who have to consider carefully all questions of management. I think it will be evident that work of the kind I have described requires not only constant but also timely attention; delay of any kind is fatal and unless material submitted for examination be attended to punctually as soon as it reaches the laboratory diagnosis will be delayed considerably and sometimes rendered impossible. I am strongly convinced that several conditions are essential to the success of such work.

1. The men undertaking it must be able to devote daily a part of their time to it, they must be able to do so without hurry or flurry, and in large districts they must be ready to sacrifice several of the best hours of their working-day. I doubt whether a medical officer of health, however experienced a bacteriologist he may be, can, when in charge of a large district, be master enough of his own time to attend to work of this kind when he should.

2. Though a fully equipped bacteriological laboratory is not absolutely necessary, the keeping of typical cultures in a state of activity, the testing of these cultures from time to time, the preparation of media of uniform composition, the looking after animals, &c., are so essential to successful continuous working that, in the absence of the facilities offered by a convenient laboratory and good attendants, the task rapidly becomes a painful and tedious load. When the work is not continuous and is taken up only in time of epidemics, the expense is increased and the training resulting from daily routine is lacking, so that the investigations become extremely troublesome.

3. Even when work such as I have described is carried out in a well-fitted laboratory it is necessary that there should be in that laboratory several bacteriologists capable of undertaking the examination of morbid products and that this should be done under the direction of a man who is not likely to leave his post at the end of a few months or even years. So much depends on the care with which examinations are made that to obtain absolutely comparable results it is necessary that the same precautions be uniformly taken. To obtain uniformity in my laboratory has been one of my greatest cares. Fortunately I have been helped in this by my friend, Dr. E. J. Sidebotham, who, struck with the importance of the work, and, free to devote the whole of his time to investigation, has consented to become my assistant, or rather colleague, at the Owens College. For nearly two years, whilst my scheme was developing, and when funds were not available to obtain further assistance he shared with me all the responsible work. At first he worked jointly with me for many months till at last we found that our results were absolutely similar. Since then we have obtained the assistance of several gentlemen working in the laboratory, more especially of Dr. Brindley, who were able to relieve us of part of the work when the absence of one of us made this necessary. Yet even now all results which are not absolutely clear are checked by Dr. Sidebotham or myself or, when there is the slightest need, by both of us. In such a way absolute continuity and uniformity are secured in our work.

4. I doubt whether it would be possible for any corporation to obtain the entire services of a bacteriologist, and at the same time to get satisfactory results, without increasing very considerably the working expenses of the sanitary department. If the post were offered to a junior man with an inadequate salary, laboratory, and attendance, this man, if at all an able bacteriologist, would soon find a better post, and, if not capable, his results would be unreliable. But even if, by extremely careful selection, a series of young men holding office for periods of from twelve to eighteen months were obtainable, how could continuity of work be secured? The apprenticeship of each man would certainly cause variations in the results which would vitiate them all.

5. It was considerations of this kind and the desire which I had to give opportunities for a study of practical applications of bacteriology to the men working in my bacteriological laboratory at the Owens College which led me to make four years ago a scheme for associating my department with the various public health departments in Manchester and its neighbourhood. This plan received the sanction of the College council owing greatly to the interest taken in it by the Principal, Dr. A. Ward, and the Council generally. The work done in connexion with Manchester consisted at first of special investigations. It was from Dr. Porter, of Stockport, that I received three years ago the first application for systematic reporting on cases of diphtheria. Manchester followed soon afterwards, and now more than fifteen sanitary districts are connected with the College in this way. Now from an economical and educational point of view such a combination is I think most desirable. I have found by careful calculation that with regard to reporting on diphtheria and typhoid fever it is possible when the number of cases is sufficiently large to have the work done in my laboratory and without causing any loss to the College by charging a fee of 5*s.* to the Corporation for each case reported upon. This allows me to pay all working expenses. The feeling that responsible work of public importance is going on in the laboratory is an incentive to good work and research, so that the department benefits in this way from the sacrifices which it has to make. On the other hand the towns connected with us derive advantages quite as great. Taking Manchester as an example, where through the interest taken by the Health Authority and Dr. Niven, the work is progressing in such a way as to yield already practical results, some 645 cases of diphtheria and typhoid fever have been reported upon during the twelve months ending with August, 1897, and about sixty specimens of milk have been examined.[§] The cost of all these reports will be to the Corporation only a fraction of what an efficient municipal bacteriological laboratory would during the same time have cost them, and the expenditure will be more than covered by the saving effected with regard to the isolation of infectious cases. The amount received from one town only would, however, be insufficient to allow me to obtain the assistance necessary to make this work compatible with my teaching duties, and it is here that the advantage of a central laboratory becomes more evident—every town applying for reports adds in a small measure to the total of fees received, while our expenditure does not increase proportionally to the amount of work done, and in this way the laboratory as well as each town benefits from the effects of combination.

6. I think from what I have said the advantage of central laboratories will be evident. Wherever possible these laboratories should be connected with university colleges or medical schools provided with laboratories fully equipped for medical and bacteriological researches. These laboratories should not be too distant from the localities which they serve, otherwise specimens might not reach their destination in time for examination the same day and a useless delay would be produced which would interfere with the proper working of preventive measures. The delay is also objectionable on account of the changes taking place in material contaminated with bacteria. In the case of milk, for instance, if no special precautions are taken to keep it cool, bacteria multiply so rapidly in summer that it is impossible after some ten or twelve hours to get a clear idea of the original state of the fluid. In the case of anthrax difficulties may arise from the disappearance of the bacillus. Typhoid blood is more convenient in that respect because it remains quite suitable for examination after many days or even weeks. I cannot give an exact idea of the size of an area which could be worked successfully by a single laboratory; but I shall not be far wrong in saying that all towns which can be reached in less than two hours by train could easily be worked from one centre. Smaller areas would be large enough to supply constant work to a bacteriological laboratory, especially if large towns were included in them.

Before closing my remarks I wish it to be clearly understood that if I have compared clinical methods of diagnosis of certain infectious diseases with bacteriological methods to the apparent detriment of the former it is not with any desire to claim for bacteriology a superiority over clinical medicine, for: (1) without bedside study of symptoms it is impossible to determine the cases in which the assistance of bacteriology may prove useful; (2) there is a large number of diseases, even of those due to micro-organisms, in which

[§] From returns communicated to me by Dr. Niven whilst this paper was in the press I hear that about 95 per cent. of all the cases notified under the heads of diphtheria and typhoid fever in Manchester have been submitted to us for bacteriological examination.

the bacteriological methods are still too imperfect or too slow to make them applicable; and (3) the bacteriologist and the clinician should look upon each other as co-workers—the bacteriologist is able to give some assistance to the clinician within certain limits but cannot claim any personal superiority. He is so situated that he has the means of applying methods which cannot be easily applied in general practice but which he should place at the disposal of his colleagues when this can shorten and render more accurate the process of diagnosis.

How the method is to be used by authorities for the purposes of increasing the accuracy of notification is an administrative question which can be better answered by the medical officer of health than by the bacteriologist assisting him. Dr. Niven has already in several of his reports alluded to this point and I have reason to believe that before long he will make the results of his personal experience generally known.

Manchester.

THE SULPHO-CYANIDE OF POTASSIUM IN SALIVA.[1]

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THE methods hitherto employed in the quantitative analysis of the sulpho-cyanide of potassium in saliva are extremely laborious. With the help and at the suggestion of my friend and colleague, Dr. Buckmaster, I have devised an apparatus by which its amount can be estimated with the greatest ease and in a few minutes only. In the hope that it may help in unveiling the mystery of the origin, physiological, and pathological significance of this characteristic salivary salt I venture to bring it to notice. I would like to introduce the subject with a brief *résumé* of the little that is known about it.

Treviranus[2] was the first to notice the deep red colour produced by the neutral ferric perchloride when mixed with saliva. This was in 1814. In 1826 Tiedemann and Gmelin proved that the colour was due to the formation of the iron sulpho-cyanide. Jacubowitsch[3] says it exists in the mixed saliva in the proportion of 0·006 per cent., Frerichs in the proportion of 0·01, Lehmann in the proportion of from 0·0064 to 0·009, whilst Wright[4] states it to be as high as from 0·51 to 0·98 per cent.; the latter observer was, however, faulty in his method of analysis. Its amount is said to vary in the secretions of the individual glands; thus, in the parotid of man Mitscherlisch[5] and Oehl state it to be 0·03 per cent. Maly found traces of it in the submaxillary gland, and Longet discovered a little only in the sublingual gland. Oehl[6] attempted a colorimetric estimation with solutions of iron. Mitscherlisch, Jacubowitsch and Gmelin found it in the parotid of man, dog, horse and sheep, though Lehmann states it does not exist in that of the horse. Schiff says it is a decomposition product and that by keeping saliva for from twenty minutes to half an hour the iron reaction is better seen. I think from my own observation I can dispute this. According to Munk[7] and Gscheidlen[8] the salt is constantly found in urine. Musso[9] found it in milk and Leared[10] in the blood. Munk and Gscheidlen found it in the urine of man, horse, dog, ox, cat, and rabbit. It is believed by these observers that the salt is absorbed into the blood and constantly removed by the kidneys, since it has not been discovered in the fæces. In urine, however, it exists only in very small quantities, the amount being from 0·029 gramme[11] to 0·08 gramme[12] in 1000 c.c. Sheridan Lea[13] says it occurs only in the urine of those animals who excrete their nitrogen chiefly in the form of urea. Heidenhain and Gscheidlen cut the ducts of all the salivary glands in dogs and formed salivary fistulæ. The total absence of the salt was found in the blood and urine, whilst the mixed saliva collected from the ducts contained it. Carpenter,[14] on the authority of Harley and Longet, says that the salt is absent in the herbivora. Claude Bernard[15] considers its presence to be due to carious teeth and tobacco smoking. Lauder Brunton[16] states that in the mollusca it diminishes reflex actions and quickens the heart-beats, large doses arresting the heart in diastole. Chouppé, experimenting on plants, found saliva fatal to vegetable life and attributed this to the contained sulpho-cyanide; and Hugenschmidt[17] states it to have a distinctly bactericidal property. Frerichs, Wöhler, and others consider it to be non-poisonous in moderate doses. Florain[18] in a paper read before a congress held in Paris in 1889 said though fatal to vegetable life it had no action on animals except in excessive doses.

I have tried the ingestion of pure potassium sulpho-cyanide in four rabbits, the amount used being between one or two grammes mixed with about ten of bran a day. In every case death resulted in about a week. The symptoms produced were alike—viz., emaciation and loss of hair. In two a marked atrophy of the salivary glands was found and in one of these after dipping in a solution of ferric perchloride a microscopic examination was made, the ducts being found more deeply stained than the gland tissue. In all four large quantities were found in the urine and fæces; in fact, the drug seemed to permeate, as far as one was able to judge, every organ and tissue and to find its way in every secretion and excretion even to the cerebro-spinal fluid. The emaciation was the most marked feature, bearing as it does on the statement of Dr. Fenwick that the elimination—if it be an elimination—of the sulpho-cyanide by the salivary glands is a measure of nutrition occurring in largest quantities in the saliva of those who are well nourished and *vice-versâ*. I can from the observation of some few cases confirm this. I should say the emaciation in the rabbits was undoubtedly dependent on the ingestion of the drug, the normal quantity of bran being eaten.

Of the pathological significance Dr. Fenwick, in some lectures on Functional Disease of the Liver, quoted in THE LANCET of 1887, points out that those diseases where nutritive efforts are called forth are invariably accompanied by an increase of sulpho-cyanide and further states that for its appearance in the saliva the bile must enter the duodenum. He adds that as the two are so closely associated it is obvious that the salt owes its origin to some action of the hepatic cells. His means of analysis consisted roughly of a series of shades of colour produced by the admixture of a known quantity of the tincture of the perchloride of iron in graduated solutions of the salt, the normal colour being obtained by a comparison of the saliva of those whose appearance and history seemed to indicate a normal condition of health. The objections to this method are that the standards of comparison, being fluid, faded after a few weeks; and the tincture of iron, owing probably to the evaporation of the spirit, did not remain at a uniform strength. Dr. Fenwick made no attempt at a quantitative estimate.

Assuming it possible to construct some permanent means of measuring the amount of the salt in the saliva it was obviously necessary to avoid these sources of fallacy, hence comparison with coloured fluids was discarded. On the suggestion of Dr. Buckmaster it was thought likely we could adapt Dr. Oliver's hæmoglobinometer to our purpose. This instrument, the outcome of much labour and thought, is a means whereby the quantity of hæmoglobin is found by contrasting solutions of blood with graded red glasses, each of which corresponds to a known percentage of hæmoglobin. Resolving then to use unfading coloured glass instead of fading coloured fluid as a means of comparison it was necessary at starting to try the tests for the salt in order to ascertain which was the simplest and which gave the best colour. These tests are:—1. The perchloride, discovered by Treviranus, consisting of the production of a blood-red colour on the addition of ferric perchloride, not discharged by hydrochloric acid but disappearing on the addition of corrosive sublimate, thus differing on the one hand from the

[1] A paper read at the Odontological Society on Feb. 7th, 1898.
[2] Biology, iv., p. 565.
[3] "De Saliva," Inaugural Address, Dorpat.
[4] THE LANCET, 1842, Physiology and Pathology of Saliva.
[5] Poggendorff's Annalen, vol. xxvii., 1848.
[6] Canstatt's Jahresbericht.
[7] Virchow's Archiv, vol. lxx.
[8] Pflüger's Archiv, vol. xiv.
[9] Bericht für Physiologische Chemie, 1877.
[10] Proceedings of the Royal Society, vol. xviii.
[11] Gscheidlen. [12] Munk.
[13] Chemical Basis of the Animal Body, p. 163.
[14] Human Physiology, ninth edition, p. 134.
[15] Leçons sur les propriétés physiologiques, vol. ii., 1859.
[16] Pharmacology, third edition, p. 114.
[17] Annales de l'Institut Pasteur, tome x., 1896.
[18] British Journal of Dental Science, 1890.

acetates and formates and on the other from the meconates. 2. Böttger's test, discovered in 1872. Filter paper, soaked in tincture of guaiacum, dried and drawn throught a 1 in 2000 solution of copper sulphate, becomes blue when treated with saliva containing potassium sulpho-cyanide. 3. Solera's test, quoted in the *London Medical Record* of 1878, based on the power of saliva of reducing iodic acid. When a weak solution of potassium sulpho-cyanide is mixed with iodic acid it becomes yellow owing to the liberation of iodine. The test is rendered more sensitive if starch paste be used, the blue colouration produced by the iodine being more easy to recognise than the delicate tints of the yellow. Solera claims such delicacy for it that he can detect 0·000,004 gramme.

Of these three tests the guaiacum was discarded, it being found necessary to make fresh preparations of that drug so frequently. The perchloride test was chosen on account of its simplicity and sensitiveness, it being at least as delicate as Solera's. I decided then to use the red colour of the iron reaction and the next stage in the experiments was to obtain a colour with a solution of the sulpho-cyanide of the same strength in which it occurs in normal saliva. This normal amount was based on the mean of Frerichs' estimate of from 0·01 to 0·006 per cent. To a 0·008 solution of sulpho-cyanide, therefore, liquor ferri perchloridi was added and sent to Lovibond's colour laboratories, Salisbury, in order to have the colour reproduced in glass. In due course they were returned and the colours were found to be exactly matched. It was at once obvious that by a series of graduated red glasses of the same shade as known strengths of sulpho-cyanide solutions, to which iron had been added, it would be possible to easily read off the percentage quantity of the salt in different salivas. It was only in the details of the experiments that any difficulties arose; of these, the most serious was overcome by my colleague, Dr. Slater. Potassium sulpho-cyanide being so extremely hygroscopic it was found impossible to make up an accurate solution in the ordinary way. Dr. Slater kindly made one by the titration process, so accurate as to come almost within Frerichs' variations of the normal. The solution was subsequently tested by Dr. Gardner, the lecturer on chemistry and physics to St. George's Hospital, and found practically correct, the exact strength being 0·010228 per cent. Not caring to trust to either the tincture of iron or the strong liquor, some trials were made with solutions of the neutral perchloride in order to ascertain the amount necessary to produce the best colour when mixed with the normal solution of the sulpho-cyanide. Some difficulty in weighing the iron occurred owing to its extreme deliquescence. After many trials a 50 per cent. solution was found to suit our purpose best.

Before proceeding further I would like to give a short account of the principle upon which the measurement is based. As, however, it has been so exhaustively described by Dr. Oliver in the Croonian Lectures of 1896 no more than a mere abstract is necessary. The colorimetric system is used in various ways as a means of quantitative estimation with the aid of colour. Lovibond, the inventor, has fixed an arbitrary and equivalent unit in glass tinted in the three primary colours, the equivalence of the unit being established by the fact that when the corresponding units of the three primary colours are superposed the colour of each is destroyed, a neutral tint resulting. It is most interesting to note the total abolition of colour produced by the superposition of even the lightest shades of the dominant colours. The latter are divided into shades and arbitrarily numbered in series, the shade of one colour corresponding to the number of the shade of the other two colours. There are necessarily more light shades than dark ones, the human retina being only able to see minute distinctions of colour in light shades. For matching and testing experts are employed. The "specific colour-curve" of known solutions of given quantities of sulpho-cyanide of potassium to which a fixed amount of neutral ferric perchloride has been added shows that in the weaker solutions of the salt yellow only is discernible, in the medium solutions orange enters into its composition, whilst in the strong mixtures red only is present, the red and yellow of the weaker solutions being totally disguised. Having thus an unvarying and fixed means of quantitative examination at our disposal it only remained to construct a graduated series of shades of red corresponding to the varying percentage of the salt in saliva, as evidenced by the depth of colour produced by the iron reaction and to make the method of examination itself unvarying. This gave rise to some difficulty for the following reasons:—1. Saliva until it has been standing some time has a decided colour of its own. Obviously if it were to be compared with coloured glass representing known strengths of sulpho-cyanide its own inherent tint must be abolished or else that tint must be added to the red of the sulpho-cyanide. Its air-bubbles and viscidity, too, were at first a disadvantage to quick work. 2. Given a clear watery saliva it was necessary to use for each examination the same amount. 3. To be perfectly uniform it was of course necessary to use an unvarying light, the changing tones of a London atmosphere being useless. 4. It was necessary to determine the gradations of the scale to be used. 5. It was necessary to fix the amount of the 50 per cent. iron solution to be used. 6. To construct a convenient cell to hold the saliva.

1. The viscidity of the saliva was easily overcome and its colour and air-bubbles destroyed by the addition of glacial acetic acid. Saliva thus treated yielded the same reaction with iron as saliva to which no acid had been added. The proportion of acid employed is 1 in 3.

2. It was obviously a matter of indifference what quantity of saliva was examined so long as the same amount was used for each examination. We decided on 2 c.c. of the mixed acid and saliva.

3. The light difficulty was overcome by adopting Dr. Oliver's practical suggestion of using double transmission. It was found, as stated also by Dr. Oliver, that reflected light showed a deeper colour than singly transmitted light. That of an ordinary candle was employed, the reflecting surface being placed under the cell holding the saliva.

4. The scale was made to consist of intervals corresponding to an increase or decrease of 0·0025 per cent. with the exception of the two lowest shades. Of these one corresponds to a mixture of distilled water and glacial acetic acid in the proportion of one in three, to which 0·045 c.c. of the iron solution is added. This was, of course, necessary in order to be able to detect the entire absence of the salt. The other low shade was put in the scale to enable us to detect a mere trace and corresponds to a 0·0001 per cent. solution of the sulpho-cyanide. The scale will thus tell three degrees of increase—the normal, four degrees of decrease, and the entire absence of the salt, the readings being in order: zero, 0·0025, 0·005, 0·0075, 0·01; or normal, 0·0125, 0·015, and 0·0175 per cent. Besides these definite gradations quarter, half, and three-quarter shades of the intervals were prepared.

5. The amount of the 50 per cent. solution of the neutral ferric perchloride necessary for each examination is only 0·045 c.c. The quantity used is more than a hundred times as much as is necessary to combine with the maximal quantity of the salt that has ever been met with in saliva.

6. A cell was made to hold 2 c.c. It was constructed of black vulcanite, the colour used not imparting any additional tinge to the contained fluid and the acetic acid having no chemical action in it. In consequence of using reflected light it had to be placed on an opaque base and a base of an absolutely colourless nature. The hydrated sulphate of lime uesd by Lovibond for this purpose was employed. The cell and lime were then cemented on to an oblong piece of glass in order to make it convenient for handling.

Having thus made all the requisite colour standards and settled all the details it was only necessary to send the former to Lovibond's colour laboratories to have the colours matched in glass. They were reproduced so perfectly and accurately that no trained eye even could detect the slightest difference. The glasses are mounted in series in a convenient form for handling. The colours of the quarter, half, and three-quarter shades were also made. They are, however, only approximately correct, as, curiously enough, though the intervals in the strength of the sulpho-cyanide are practically uniform it was found that the colour of the fractions of each did not quite correspond. I think, however, they are near enough for all practical purposes. Perfect accuracy could be obtained by having specially prepared glasses made for each interval, but as it would add to the cumbersomeness of the apparatus—a consideration where clinical investigation is aimed at—and also greatly increase the expense, it was not thought worth while to do this. The glasses corresponding to the fractions are called riders. The complete apparatus consists of (*a*) test tube fitted to economise space over (*b*) centimetre measure; (*c*) scale of colours; (*d*) cell; (*e*) cover-glasses; (*f*) pipette for measuring the iron; (*g*) camera tube for contrasting the

colours; and (h) riders. For clinical work they are packed in a small case in which room is found for candles, extra test tubes, &c. The case has a compartment shut off from the rest to serve as a camera tube. At the lower aperture of the camera two holes are perforated under one of which is placed the saliva to be examined and under the other the colour standard with which it is to be contrasted. To one side of the upper aperture a piece of green glass is attached for the purpose of rendering the retina more sensitive to red light should the eye become fatigued.

With regard to the method of using the instrument. Some saliva is first collected in a test tube and 2 c.c. poured into the centimetre measure. By this little manœuvre the air bubbles are retained in the test tube. To this 1 c.c. of glacial acetic acid is added and shaken up a little to ensure complete mixing. Next the 0·045 c.c. of iron is taken up and mixed with the acid and saliva, it being necessary to pass them two or three times up the tube of the pipette to make certain that all the iron is added. The cell is then filled from the centimetre measure and a cover glass—which, by the way, is absolutely colourless—placed on top. If the cell is accurately filled to 2 c.c. a small air-bubble will be seen on the surface of the fluid. It is then placed under one hole of the camera and the standard with which it apparently corresponds placed under the other. The candle is then lighted and placed in such a position as to equally illuminate the surfaces of both saliva and standard. If the two colours correspond the amount of the sulpho-cyanide is at once known. If they do not it is only necessary to shift the standards till one is found of the same shade. Should none be found to exactly match the riders are brought into use, taking care that for every rider employed an additional cover-glass be placed on the cell in order to equalise the reflecting surfaces. Of what use the instrument may be remains to be seen. I have worked with it enough to be unable to confirm Schiff's statement that the sulpho-cyanide increases in saliva that is kept a few hours owing to decomposition of the fluid. I can also say its existence does not in any way depend either on the presence of carious teeth or the use or non-use of tobacco.

Sloane-street, W.

A CASE OF PUERPERAL SEPTICÆMIA.

BY CHARLES L. FRASER, F.R.C.P., F.R.C.S. EDIN.,
SURGEON TO THE BERWICK INFIRMARY.

THE following notes of a severe case of puerperal septicæmia may be of interest from the fact that grave complications seem to have been modified by the use of anti-streptococcic serum. I have reason to believe that some practitioners in such cases take no steps to remove from the uterus any putrescent offending matter or to render its cavity surgically clean, and such a case as the following amply demonstrates the necessity for such interference, otherwise the probability is that the patient slips through one's fingers.

The patient was a very thin, pale, and delicate woman, aged twenty-five years. At her confinement on Dec. 10th, 1897, she could render herself very little help, the pains were feeble and useless, consequently she was delivered by forceps, in regard to which operation there was no particular difficulty. For two days she did very well, but on Dec. 13th the temperature in the morning was 102° F. and the pulse was 104. There was no abdominal tenderness but there was very slight fœtor of the lochia. On the 14th the temperature was still 102° and the fœtor was more marked. The uterus was washed out with a 1 in 60 solution of carbolic acid and then with hot water. On the 15th the temperature was 101°, but no local treatment was allowed as the patient felt so ill. On the 16th the temperature was 101·5° in the morning and 103° at night. On the 17th the temperature reached 103° and during the night a severe rigor had occurred; the onlookers thought she had convulsions. The pulse was very fast and thready, nearly "running." The face was pinched and anxious, with a death-like pallor. With difficulty the uterus was curetted, well washed, and flushed with carbolic acid solution and then packed to the fundus with iodoform gauze. Its cavity was large and uncontracted and before the washing the odour was very strong. She was being well nursed and was fed with milk, raw meat juice, and brandy. On the 18th the temperature was 104·2° in the morning and the pulse was 120, soft, and very compressible. The gauze was removed from the uterus, but the septic odour was easily perceptible through the iodoform, and the skin was sweating profusely and was blotched over the chest and abdomen. At 3 P.M. 10 c.c. of anti-streptococcic serum were injected into the cellular tissue of the abdominal wall. At 8 P.M. the temperature was 102·6°, the pulse was 106, the respirations were 24, and headache was nearly driving the patient frantic. She felt so ill and weak that neither she nor her friends would allow further washing. On the morning of the 19th the temperature was 100° and the pulse was 92. The patient had had a better night; the headache was much less severe, the discharge was not so fœtid, and she had a sense of feeling better. 10 c.c. of the serum were injected. At 8.30 P.M. the temperature was 101·2° and the pulse 104. The discharge did not smell fœtid. The headache, however, was still severe, but a six-grain dose of butyl-chloral relieved it. On the 20th the temperature was 101° and the pulse was 104. The headache was easier, the pulse firmer, the tongue cleaner, the skin drier and less blotchy, and the anxious, pinched face had smoothed out a little. The uterus was washed out with carbolic solution and 10 c.c. of the serum were injected. On the 21st the temperature was 100° and the pulse was 108. The headache was easier as also were the other symptoms. On the 22nd the morning temperature was 99·6° and the pulse was 100. She was still improving and the head especially was comfortable. The uterus was washed out with strong carbolic solution and a shred came away of what appeared like macerated membrane about two inches long. The fœtor was not marked. At 8 P.M. the temperature was 101° and the pulse was 108. The headache was worse and altogether the patient was not so well. On the 23rd, to my great disappointment after such a struggle, the temperature was 104°, the pulse was 120, and all the symptoms were aggravated, the headache being terrible. A severe pain had attacked the left leg which was slightly swollen. The veins in the popliteal space were hard and corded and the calf was very tender to touch. Large linseed poultices were applied. On the 24th the temperature was 103·4° and the pulse was 116. The head was very painful, but the pain in the leg was not so intense. There was no fœtor at all from the discharge and the other symptoms were more favourable.

The course of events from this point is of great interest for the temperature fell 1° every morning until it reached normal on the 29th, the pulse corresponding. The tenderness of the leg gradually disappeared, likewise the swelling, the corded veins softened very quickly, and by the end of the month the patient could move the leg about quite freely and without pain. Her further progress has been uneventful if slow. It seems to me that it is just possible that the serum may have assisted such a very rapid resolution of symptoms which had all the appearance of a genuine phlegmasia.

Berwick-on-Tweed.

HEALTH OF TRURO.—The annual report presented by Dr. T. M. Bonar, medical officer of health of the Truro Rural District, shows that during 1897 there were 350 deaths, or 15·45 per 1000, and 517 births, or 22·85 per 1000. During the year 1 case of puerperal fever had been notified, 17 of diphtheria (with 2 deaths), 20 of erysipelas, and 31 of scarlet fever (with 2 deaths). There were 9 deaths from measles.

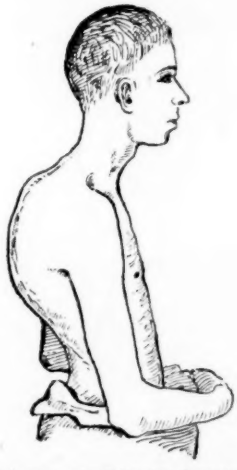
VILLAGE SANITATION IN DEVONSHIRE.—At Ipplepen, on Feb. 8th, a Local Government Board inquiry was held to consider the application of the Newton Abbot Rural District Council for power to borrow £600 for works of sewerage in that village. Evidence showed that the cesspits were "indescribably bad" and very little could be said of the water-supply; a witness in describing one of the village wells stated that at one time the well overflowed and to prevent this happening again a drain was laid between the well and a sewer and added that when the sewer is choked the sewage goes into the well. He also said that sewage from a certain street "runs openly into a pasture field among cows which supply Torquay with milk." Fourteen years ago there was an inquiry at the same village almost precisely similar to that held last week and it is to be hoped the district council will see that the village gets a proper water-supply as soon as possible.

IMMEDIATE REDUCTION OF THE DEFORMITY IN CARIES OF THE SPINE.

BY NOBLE SMITH, F.R.C.S.EDIN.,
SURGEON TO THE CITY ORTHOPÆDIC HOSPITAL AND ALL SAINTS' CHILDREN'S HOSPITAL.

THE reports published of my observations made at a recent meeting of the Clinical Society upon this subject were too short to indicate clearly the arguments I wished to bring forward. It was my endeavour to show:—1. That in caries of the spine forcible and violent reduction under an anæsthetic is a risky, if not dangerous, procedure. 2. That it is desirable, however, to straighten out the vertebral column to a certain extent by gentle means. 3. That gradual extension by means of an efficient splint, such as the modification which I have devised of that invented by Mr. E. J. Chance,[1] invariably gives satisfactory results. 4. That the indication as to the extent to which the spine may be straightened with safety is the sensation of comfort felt by the patient and the relief of the general symptoms. In order to prove the

FIG. 1.



Case of caries involving many or all the dorsal vertebræ in which acute tuberculosis followed forced extension.

first of my contentions I recorded two cases in which violent reduction had occurred accidentally. One was a case in which partial repair had already taken place when the spine was accidentally straightened out by exercising the patient upon a horizontal bar. The new growth of bone was broken down and the particles of bone acted like foreign bodies, causing considerable local irritation. Abscesses formed and in spite of assiduous treatment the patient died. The second was a case of acute caries in which a large number, probably nearly all, of the dorsal vertebræ were affected. This patient (Fig. 1) was brought up into nearly a straight position in a few days, general tuberculosis supervened and death occurred within a short period.

That it is desirable to straighten the spine as much as possible compatible with safety is obvious, provided we can obtain repair of the parts by substantial bone. As an example of the possibility of a large gap being filled up by bone a case was recorded by me of a boy, aged eight years, in whom the straightening took place from his lying in the prone position. Here the procedure of straightening was without violence and the result may be considered good. The patient was in an almost hopeless condition at first, all the dorsal and lumbar vertebræ being involved in the disease. He gradually recovered and was able two years later to walk about. It is probable that during his condition of extreme emaciation, which had existed for some time when I first saw him, tuberculous deposit took place in other parts of the body, for after he had been getting about for some months (two and a half years from the commencement of treatment) he died from tuberculous meningitis. At a post-mortem examination it was found that a large gap had been formed by the total destruction of the bodies of the seventh, eighth, and ninth dorsal and the partial destruction of other vertebræ above and below, and this gap had been filled up by new bony growth (Fig. 2). Had he lived it seems probable that this growth would in time have become

FIG. 2.

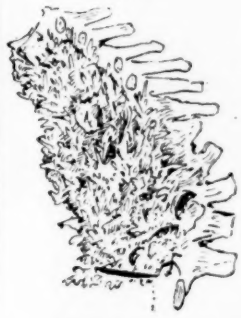


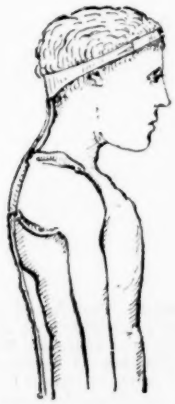
FIG. 3.

firm. It was, however, in an imperfect condition and broke down upon maceration of the specimen, leaving the bones as shown in Fig. 3.

As a proof of the possibility of straightening a carious spine by means of the splint referred to I described the case of a boy, aged nine years, whose appearance before and after the application of the apparatus is shown in Figs. 4 and 5. I also exhibited photographs of a case of caries occurring late in life, showing how straight a spine might be made by gentle means (the patient was shown at the meeting). (Figs. 6 and 7.) Some of these cases I have described in my book "Spinal Caries."[2] Figs. 8 and 9

FIG. 4.

FIG. 5.



show the straightening process effected by the gradual and gentle method. I have followed this plan of treatment now for nearly twenty years and have never found it fail to benefit the patient.

Deductions.—That the greater the gap the longer the period required for perfect consolidation of the affected part of the spine. That in such a case as that to which Figs. 2 and 3 belong at least three or four years would appear to be necessary for cure as against about one and a half years in cases treated by fixation before much deformity has

[1] One of the chief of the modifications I have introduced is the method by which any one part of the apparatus can be renewed or changed without taking the support from the patient.

[2] "Spinal Caries," second edition, published by Smith, Elder, and Co., London, 1897.

FIG. 6.

FIG. 7.

FIG. 8.

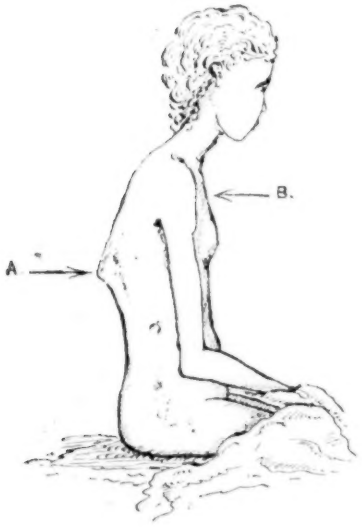
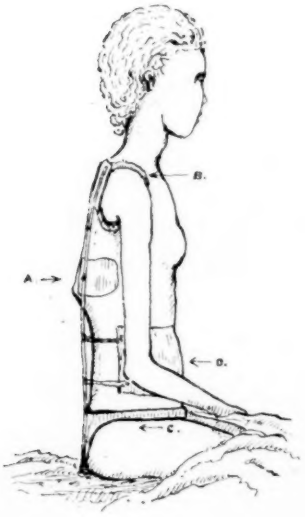


FIG. 9.



occurred. That forced reduction by the violent methods recently advocated is likely to so disturb the inflamed tissues as to aggravate the disease for a time and increase the difficulties of healthy resolution, whereas almost equally good results as regards improvement in position of the spine may be obtained by the gentle method I have described. That in those cases in which the spine cannot be so much extended by gentle measures as it can by violent efforts the limit of safety will be arrived at by the first plan of treatment whereas it will be exceeded by the second. That no question as regards the application of forced reduction would ever arise if caries of the spine were treated efficiently in the early stages, that is to say, not much later than the first appearance of deformity. I would also add that many a case of rapidly developing caries of the spine might be arrested before deformity occurred if children suffering from equivocal symptoms of weakness of the spine were not so commonly subjected to the now popular treatment by gymnastic exercises.

Queen Anne-street, W.

THE ST. JUST URBAN DISTRICT COUNCIL.—A meeting of this district council was held on Feb. 5th under the presidency of Major White. A letter was read from Mr. E. Millett, J.P., of Bosavern, who had been requested to provide closets for two of his cottages; this stated that the "receptacles" should be provided in due course and added "that the uselessness of providing confined places when people have the fields to retire to is plain. On visiting two closets belonging to two of my houses some time since I found one was the receptacle of all sorts of old rubbish—pots, pans, &c. The balance of the roof was stuffed with furze for kindling. The other closet had a large stone placed against it so that it should not be used and they have the trouble to clean it. Now, what earthly use are closets to such people?"—A member moved that the Infectious Diseases Notification Act should come into operation on March 1st, but another member moved that the matter be deferred until St. Tibble's Eve, which he said was neither before Christmas nor after, and this was finally carried by the casting vote of the chairman.

CASE OF

CONGENITAL IMBECILITY ASSOCIATED WITH CONGENITAL DEFICIENCY OF THE CHEST WALL AND WITH CARDIAC DISEASE.

BY JOHN HAROLD, L.R.C.P. LOND., M.R.C.S. ENG.,
LATE MEDICAL REGISTRAR, CHARING-CROSS HOSPITAL.

THE following case is a very remarkable and interesting example of the coincident occurrence of congenital deformity of the chest wall with congenital imbecility, and with extensive cardiac disease which was in part probably due to some congenital abnormality.

The patient, a thin, weakly, anæmic, feeble-minded boy of short stature, aged seventeen years was the youngest child of a family of four, and very great difficulty was experienced in rearing him. His father, mother, and three sisters had suffered from acute rheumatism. His mother died recently, having suffered from melancholia for over a year, and all the members of the family were strikingly neurotic. At the age of three years he had scarlet fever and at twelve years of age he suffered from acute rheumatism, from which he had convalesced but three months when a second and more severe attack of acute rheumatism supervened, this time being complicated with acute pericarditis. During the later months of her last pregnancy his mother had a severe fright which distressed her very much. The patient had been to several schools and could read and write a little, but he was very backward in his knowledge of arithmetic. He was five years of age before he could walk, had nearly reached his sixth year before he attempted to speak, and it was not until the age of ten years that he could speak intelligibly to strangers. At times he was irritable, excitable, and passionate. His physiognomy was striking (see Fig. 1).

FIG. 1.

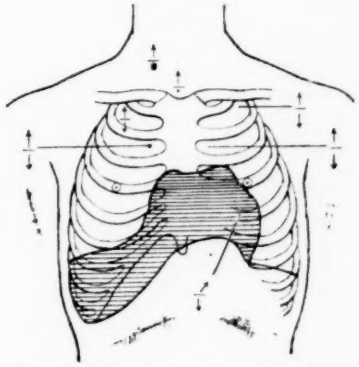
The head was of the dolichocephalic type, the ears stood out, the pinnæ being large and rounded but showing no defect in their parts or in their form. There was no facial asymmetry. The nose was large and no congenital defects of the lips, mouth, tongue, or jaws could be detected. Hearing and the sense of smell were alike defective. The teeth were of the average density and structure and the salivary secretion was not excessive. He had a well-marked arched or vaulted complete palate which was interesting in the indication which it afforded as to the congenital origin of the brain condition. There was no transposition of viscera. The circumference of the chest on a level with the nipples was twenty-six inches and the length of the thorax was nine inches (Fig. 2).

FIG. 2.

Side view, showing length of thorax. The black line indicates the absence of rib-cartilages.

On the left side of the chest the rib cartilages were normal down to and including the fifth; below that level all the rib cartilages were wanting; the left half of the sternum and xiphisternum for a corresponding interval were also deficient, the pericardium being thus unprotected. The skin over the area just alluded to was normal.[1] The accompanying chart of the chest (Fig. 3) shows the area of

FIG. 3.



the hepatic and cardiac dulness and the situations of the auscultatory physical signs presently to be described and also the deformity of the chest wall. There was no deformity of the hands, feet, or scapulæ, and no clubbing of the fingers or toes was present, but there was slight cyanosis of the nail bed. The heaving, unprotected præcordial impulse was most

[1] Transactions of the Pathological Society of London, vol. xix., p. 41.

forcible and gave the impression to the hand of the observer on palpation that the heart rotated on its vertical axis. There was a striking disproportionate hypertrophy of the right ventricle. Auscultation revealed the presence of well-marked mitral systolic and double aortic bruits and a well defined musical systolic murmur audible over the pulmonary area, with accentuation of the pulmonary second sound. In the fourth left interspace a very pronounced systolic thrill was detected.[2]

I gladly acknowledge my indebtedness to Dr. Victor Corbould for the photographs illustrating this case.

The occurrence of congenital heart disease in association with mental deficiency is not uncommon and in the case now recorded it is probable that, in addition to arrested mental and physical defects, there was likewise some congenital cardiac abnormality—that the case was, in fact, one of primary cardiac malformation with the results of superadded rheumatic endocarditis. The patient, after frequent attacks of cardiac distress and anginoid pain, died quite recently, but no opportunity was afforded by the relatives for a post-mortem confirmation of the diagnosis of congenital cardiac trouble, so that the diagnosis of that condition has to rest on a general review of the case.

The family history of rheumatic fever was of interest as regards the possibility of fœtal endocarditis.[3] Arrested mental and physical development in association with the cardiac physical signs justified the supposition of congenital heart disease, the difficulty of diagnosing the latter condition being increased by the presence of aortic and mitral disease due to acute rheumatism.

The diagnosis of congenital cardiac disease is often a matter of much difficulty and is likewise often unsuspected and masked in patients who first come under observation whilst suffering from some other disease. In this connexion I may briefly cite a case which came under my observation some time ago—that of a young girl suffering from acute phthisis. Six years previously she had a very bad attack of acute rheumatism, and she was then informed by her doctor that "her heart was affected." On recovering from her rheumatic illness she frequently suffered from attacks of dyspnœa and cyanosis of the lips, face, and fingers. Examination of the heart revealed the presence of mitral systolic and double aortic bruits. This patient succumbed to her pulmonary trouble, and post-mortem examination revealed the existence of a greatly constricted pulmonary orifice and an imperforate septum ventriculorum, the tricuspid, mitral, and aortic valves being fringed with small vegetations. The existence of congenital heart disease was in this case never suspected, the past history of the patient having, unfortunately from a diagnostic point of view, successfully obscured the suspicion of congenital malformation.

Dr. Archibald E. Garrod,[4] in an article on cardiac malformations in association with other congenital defects, directs attention to the physical auscultatory signs suggestive of pulmonary stenosis which are of considerable diagnostic import. He especially directs attention as to how far reliance may be placed on the presence of associated deformities as indications that the cardiac lesions are due to congenital malformations rather than to fœtal or extra-uterine endocarditis. Dr. Garrod's article is worthy of most careful perusal by all who are interested in congenital cardiac disease

Harley-street, W.

[2] St. Bartholomew's Hospital Reports, vol. xxx., p. 56; Zeitschrift für Klinische Medicin, vol. xxi., p. 142; Lehrbuch der Auscultation und Percussion, 1883, p. 308.

[3] St. Bartholomew's Hospital Reports, vol. xxx., p. 60.

[4] St. Bartholomew's Hospital Reports, vol. xxx.

TYPHOID FEVER AT CAMBORNE.—At the meeting of the Camborne District Council held on Feb. 11th Mr. J. T. Thomas, L.R.C.P. Lond., M.R.C.S. Eng., the medical officer of health, reported that during January there had been three deaths from typhoid fever. No case of typhoid fever or any other infectious or contagious disease had been notified to him since Jan. 29th.

HEALTH OF FALMOUTH.—Dr. W. King Bullmore, the medical officer of health of Falmouth, in his annual report for 1897 states that the births registered were 255 and the deaths 192, or an annual birth-rate of 20·8 per 1000 and a death-rate of 15·7. There were 26 cases of zymotic disease notified and the death-rate per 1000 from zymotic disease was 2·1.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE TRANSPLANTATION OF SKIN *EN MASSE* WITHOUT PEDICLE FROM ONE PART OF THE BODY TO ANOTHER AND FROM ONE PATIENT TO ANOTHER.

BY CHARLES BELL TAYLOR, M.D., F.R.C.S. EDIN.,
SURGEON TO THE NOTTINGHAM AND MIDLAND EYE INFIRMARY.

SOME years ago I was asked to operate upon a woman for ptosis and in order to remedy the defect I excised a portion of skin from the upper lid. I thought I had removed just enough to effect my object, but found on approximating the edges of the wound that I had done too much and that the patient who formerly could only open her eye ever so little would in consequence of my interference be permanently unable to close it. It was not practicable for reasons into which I need not enter to transplant a piece of skin with pedicle from the immediate neighbourhood of the orbit and I thought I might as well put back the excised lid as seek for fresh material without pedicle elsewhere. I therefore replaced the apparently dead piece of cuticle which took kindly to its old quarters and the shrinkage due to its temporary demise sufficed, as I had hoped it would, to restore the normal position of the lid.[1]

I had previously and have since frequently transplanted skin from one part of the body to another, occasionally from one patient to another, and last year I introduced to the notice of the President and members of the Ophthalmological Society of the United Kingdom a patient who had been cured of extensive symblepharon by the transplantation of a large piece of skin on to the surface of the eyeball itself. The illustration here given, which is taken from a photograph of a patient exhibited to the Nottingham Medical Society on Jan. 5th, is an example

New lid transplanted from the forearm immediately after operation.

of restoration of an eyelid by a piece of skin two inches in length (without stretching) and one and a half inches in depth taken from the forearm, the lid and tissues having been so completely destroyed by burn that it was impossible to find healthy tissue anywhere in the neighbourhood of the orbit. The points to be attended to in all such operations are to clear away any subcutaneous tissue, ensure close approximation of the edges, apply pressure, and keep the flap warm.

Nottingham.

[1] Transplanted skin shrinks to about one-fifth of its original size.

NOTE UPON A CONGENITAL APPEARANCE OF THE FUNDUS OCULI.

BY SYDNEY STEPHENSON, M.B., M.C., F.R.C.S. EDIN.,
OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL AND TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

THE object of the following brief communication is to call attention to a somewhat common ophthalmoscopic appearance—namely, a translucent globule lying in the hinder part of the vitreous humour. The condition must be far from rare, since I have notes of twenty-nine cases and have seen at least as many more. From figures at my disposal I should estimate it to be present in about 1 per cent. of presumably healthy eyes. So far as I know, however, it has not yet been described, unless communications by Dr. Kollock and Dr. Randall may be taken as referring to the subject. The former[1] reported that he had met with a small cystic outgrowth attached by a pedicle to the optic disc. The latter observer[2] described two analogous cases where a small "pellucid vesicle stood out upon one of the retinal vessels." Dr. Randall's paper is illustrated by two roughly executed sketches of the condition. It is possible, also, that to these growths a reference is made by Mr. Lang and Mr. Collins in the article upon Congenital Malformations and Abnormalities that they have contributed to Norris and Oliver's "System of Diseases of the Eye."[3] Those writers speak of "little rounded bodies of a steel-grey colour which appear to be fluid-containing cysts attached to the optic disc."

In my cases the tiny masses had a faint greyish colour, allowed light to pass through them, and lay in front of the retinal vessels. In general appearance they reminded one of a drop of oil. To the direct method of ophthalmoscopic examination they ranged in size from 0·5 mm. to 4 mm. in diameter. Their shape was usually globular, but in some instances they were reniform, pear-shaped, fusiform, or resembled in outline a dumb-bell or a Florence flask. Although a so-called "parallax" can be made out between them on the one hand and the underlying vessels on the other, yet they do not lie far forward in the vitreous; for example, the refraction difference between them and subjacent parts seldom amounts to more than 2 D. or 0·66 mm. Thus far I have met with them only in the immediate neighbourhood of the optic disc, a fact that suggests some connexion with the embryonic hyaloid artery or its sheath. Exceptionally I have seen them attached to the point of bifurcation of the central artery of the retina by a fine filament of glistening tissue. As a rule they are devoid of movement except such as may occur in association with excursions of the affected eyeball. In four of my patients the condition was found in both eyes.

It is not uncommon to find these bodies in eyes that manifest other congenital anomalies, such as persistent pupillary membrane, opaque nerve fibres, tortuous retinal vessels, venous peculiarities, cilio-retinal vessels, connective tissue around the central vessels on the optic disc, or faint zonular cataracts. Some of my patients have remained under observation for several years, but no change has been noticed to take place in the size or position of the little masses.

No mention of this anomaly has yet found its way into the text-books, although its comparative frequency and its liability to be mistaken for a diseased condition certainly entitle it to a place. The knowledge of this omission (as it seems to me) has led me to send a note upon the subject to THE LANCET.

Welbeck-street, W.

NOTE ON A CASE OF LEPROSY.

BY OSCAR LEVY, M.D. FREIBURG, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient, a Russian Jewess, aged sixty-one years, came to England in 1891 from Mitow in Kurland, one of the Baltic provinces. She was apparently in good health until suddenly, two years after she had landed in this country, her nose became painful and began to swell until it became double its original size. The colour was a lively bluish-red and the swelling extended to both cheeks. In the same time the meatus and the interior of the nose were swollen and very painful. This inflammation disappeared after a time and subsequently in about six months a rash developed all over the body. No account of fever is given. Pains then supervened both in the arms and the legs. During the following four years the face became affected, large infiltrations were formed especially round the mouth and nose, leaving deep grooves between them. These infiltrations diminished in size sometimes and then increased again. Three months ago the throat became very painful. When I was called to see the patient on Jan. 21st I found her sitting in a chair and complaining very bitterly about difficulty in swallowing and breathing. The marked leonine expression in her face at once struck me and reminded me very forcibly of the many cases of leprosy I had seen on the Tshu-kiang River, near Canton in China, among the numerous river population who came in their "sampans" surrounding our steamer, holding up their fingerless hands in order to receive a small coin; and I remembered the lepers I had met in a tour in the south-western part of Iceland, cases so graphically but—if I may add my own and the opinion of Icelandic medical men—in a greatly exaggerated way described by Dr. E. Ehlers (Copenhagen).[1] There was no doubt that this, too, was a case of "lepra tuberosa." But lepra anæsthetica was present as well as a diffused loss of sensibility, while no patches of marked anæsthesia were present. The arms and legs, which were covered with small dark-reddish nodules and showed, like the rest of the skin, the peculiar brownish colour, were wholly insensitive to the prick of a needle, this anæsthesia being most marked on the plantar surfaces of both feet. Both muscles of the arms and legs were atrophic, but no swelling of the ulnar nerve or of the peroneal or the cervical plexus could be noticed. The nose was blocked up and very deformed, the soft palate was red and swollen and showed on the right side a superficial ulcer of small extent. The scalp was of course free, but it is remarkable that the lobules of the ears were not affected either. Both upper eyelids showed a firm leprotic infiltration; the cornea and conjunctivæ were intact. The voice seemed to be rather husky.

I am indebted to Dr. P. S. Abraham, the honorary secretary of the "Special" and "Leprosy Investigation" committees of the National Leprosy Fund, for much valuable information and the clinical confirmation of my diagnosis, and to Mr. Leslie Milburn, an able student of Middlesex Hospital, for the bacteriological researches in this case. He has prepared specimens both from the nasal mucous membrane and from a nodule on the skin of the leg, in both of which I have seen numerous colonies of the bacillus lepræ.

Bloomsbury, W.C.

[1] Vide New Sydenham's Society's Prize Essays on Leprosy. Edmund Ehlers: On the Conditions under which Leprosy has declined in Iceland. 1895.

[1] Medical News, Oct. 23rd, 1886.

[2] Transactions of the American Ophthalmological Society, 1898, p. 116.

[3] Vol. i., p. 456.

BIRKENHEAD MEDICAL SOCIETY.—At a meeting held on Feb. 11th (Dr. Lambert in the chair) Dr. Gilson read notes on, and showed a man suffering from, Progressive Muscular Atrophy.—Dr. Francis Johnston opened a discussion on the Therapeutics of Bleeding and Cupping.—The following gentlemen took part: Dr. Lambert, Mr. Stansfield, Dr. Edgar Stevenson, Dr. Hughes, and Dr. Pinkerton.—Dr. Johnston replied.—Mr. Stansfield showed a specimen of Hair which he had removed by operation from a case of Parovarian Dermoid Cyst.—Dr. Lawton gave the history of the case previously to being operated on.

LITERARY INTELLIGENCE.—Messrs. Swan Sonnenschein and Co. have in the press a work on Epidemic Diphtheria by Dr. Arthur Newsholme, Examiner in State Medicine to the University of London, which will be ready at an early date. The work embodies a research on the origin and spread of the disease from an international standpoint. Although dealing largely with statistical data it will be almost free from figures, the necessary facts being stated graphically by means of diagrams.—Mr. H. K. Lewis announces for early publication a new volume in his "Practical Series" entitled "Diseases of the Nervous System," a hand-book for students and practitioners, by Charles E. Beevor, M.D., F.R.C.P. Lond., physician to the National Hospital for the Paralysed and Epileptic, &c.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

STATION HOSPITAL, VINCENT-SQUARE, S.W.

A CASE OF ERYSIPELAS COMPLICATED BY ENDOCARDITIS TREATED BY ANTI-STREPTOCOCCIC SERUM.

(Under the care of Surgeon-Lieutenant-Colonel JAMES MAGILL, Coldstream Guards.)

A PRIVATE was admitted to hospital on Oct. 22nd, 1897, under the care of Surgeon-Lieutenant-Colonel Magill, complaining of sore-throat. The patient was a young soldier, aged twenty-one years, of two and a half years' service. In December, 1896, he contracted primary syphilis and this was followed by secondary symptoms. He underwent a prolonged mercurial course. He had been at duty for six months subsequently—i.e., since April, 1897—without any relapse. During this period Surgeon-Lieutenant-Colonel Magill kept him under personal observation and the patient took one three-grain tabloid of hydrargyrum cum creta daily with fair regularity. His general health was excellent. On admission on Oct. 22nd, 1897, his throat was sore, but as far as could be seen he had no tonsillitis. His tongue was slightly swelled and his voice was suggestive of laryngitis. His temperature was 104·6° F. On the next day his condition was unchanged. The morning and evening temperatures were 102·4° and 104° respectively. There was no albumin in his urine. His voice was husky, his tongue was swelled and very red, and he had some difficulty in swallowing. There were no ulceration in his throat, no follicular tonsillitis, and no membrane. On the 24th it was noted that his left ear and parotid region were swollen and presented an erysipelatous blush His tongue and voice were no worse. No albumin was present in the urine. The temperature was 104·6° and the pulse was 116. It was thus clear that it was a case of erysipelas, commencing in the fauces and tongue, spreading up the Eustachian tube on the left side and attacking the face. On the next day (the 25th) the erysipelatous blush was more marked, but his throat was better and he could swallow more easily. His tongue remained swelled and very red. There was no albumin in the urine. He was given large doses of tinctura ferri perchloridi and quinine and a full allowance of stimulants. There was no pain in the ear and no perforation of the membrana tympani occurred and there has been no subsequent deafness. On the 26th the throat was easier, but the skin was very tense and glazed about the left ear and the blush was spreading to the other side of the face. There were no cerebral symptoms. The disease slowly extended across the forehead and nose until the entire face was involved, but the tongue improved and swallowing was no longer difficult. On the 27th and four following days there was a cloud of albumin in his urine. The stimulating plan of treatment was continued, with iron and quinine in full doses. The erysipelatous blush commenced to fade where it had begun—i.e., in the left ear—and on Nov. 4th he seemed in all respects convalescent and he was allowed to sit up for two hours. A relapse followed; the blush recommenced in the left cheek and ear and slowly spread over the nose and across the forehead to the right side of the face and then gradually faded as before, so that on the 10th the temperature was normal once more. Two days subsequently the temperature again rose and the erysipelas, beginning as on former occasions about the left ear, extended over the entire face and now invaded the scalp. He had nausea and vomiting, but no rigor and no albuminuria. His temperature presented a pyæmic aspect, the difference between the morning and evening readings being as much as 5° or even more. On the 18th he complained of slight pain about the cardiac region and a faint roughness of the first sound at the apex was observed, which next day was a loud mitral systolic bruit. There was no pericardial friction. The heart was evidently dilated and the apex beat was much below and outside its normal position. He commenced to emaciate rapidly despite the large quantities of food he consumed. The iron and quinine were continued and he had bromide of ammonium at night. He had no rigors or sweating. On the morning of the 21st his temperature was 97·5°, while on the previous evening it had been 103°. His pulse was very weak and small (104); his head and face were much swelled and the systolic bruit was very loud, but the impulse was faint, the general condition being extremely grave. After consultation with Brigade-Surgeon-Lieutenant-Colonel C. E. Harrison (Brigade of Guards) it was decided to try the effects of the injection of anti-streptococcic serum. This was procured from the British Institute of Preventive Medicine and at 11 A.M. Surgeon-Lieutenant-Colonel Magill injected 10 c.c. into the subcutaneous area of the left loin. The effect produced was most remarkable. That evening the temperature was only 98° and it may be said in a word that it has continued normal ever since except on one occasion some weeks later when it rose to 99° owing to an error of diet. No unpleasant consequences followed the injection of the serum—no rash, no joint pains, no local tenderness, and no albuminuria. On the next day the urine contained a most unusual amount of lithates. The patient's face gradually resumed its usual aspect and the œdema of the scalp disappeared by degrees. A temporary solid thickening of the skin under the left eyelid due to the blocking of a small vein remained for some time. His general condition rapidly

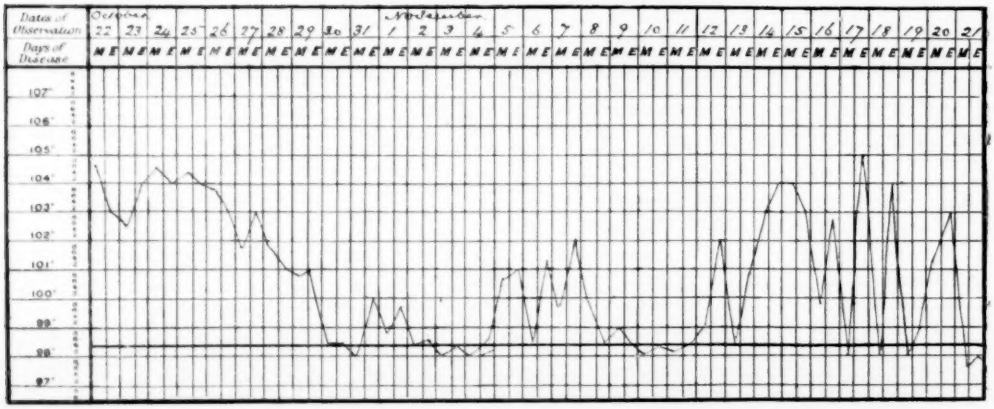


Chart illustrating the course of a case of erysipelas with endocarditis in a male aged twenty-one years, treated with anti-streptococcic serum. (Under the care of Surgeon-Lieutenant-Colonel Magill.)

improved and though the systolic bruit persisted the apex beat almost returned to its normal site.

On Feb 1st the patient showed no signs of recent illness and he had put on flesh, being heavier than ever he was before. The mitral systolic murmur remained and though very much fainter was doubtless organic and will prevent his future efficiency as a soldier. The heart seemed scarcely if at all enlarged and the pulse was quiet and regular. There was no albumin in his urine. It may be remarked that all through his recent illness he never showed any signs of the syphilitic infection for which he was under treatment up to the time of the onset of the erysipelas.

Remarks by Surgeon-Lieutenant-Colonel MAGILL.—This case presents several features of clinical interest which I will briefly summarise. It is uncommon for erysipelas to manifest itself first in the fauces and tongue and its painless extension up the Eustachian tube to the face is a still rarer occurrence. Such cases are, however, on record, though usually accompanied by symptoms of acute inflammation of the tympanum. I would also draw attention to the three separate occasions—viz., about Oct. 24th and Nov. 4th and 12th—on which the disease started from the same site—i.e., the neighbourhood of the left ear—and spread all over the face. The rapid and lasting effect produced by the injection of anti-streptococcic serum is very noteworthy. The prognosis in a case of infective endocarditis is so grave and the danger of the formation of pyæmic abscesses so great that the successful result in the present instance is the more remarkable. In the "Twentieth Century Practice of Medicine"[1] it is stated that "endocarditis in the course of erysipelas was first noted by Gubler and afterwards was specially studied by Jaccoud and Sulzer," and a recent annotation in THE LANCET[2] affirms that "infective endocarditis is one of the recognised complications of erysipelas." The subject does not receive much attention in the text-books, but in the recent work by Sir Dyce Duckworth[3] under the heading Erysipelas the author says that "malignant endocarditis has been observed, though rarely, as a sequel"; and Dr. Hale White writes: "In very rare cases it may follow erysipelas."[4] A somewhat different view as to the frequency of this complication is taken by some foreign authors, and M. Achalme[5] states: "Si les altérations du cœur sont relativement fréquentes dans l'érysipèle," &c. The microbic origin of erysipelas is now generally accepted. In Ericksen's "System of Surgery"[6] the author remarks: "It has now been proved to demonstration that cutaneous erysipelas is the result of the growth of a micrococcus in the lymphatic spaces of the skin. The organism occurs most commonly in pairs or chains and is known as the streptococcus erysipelatosus." Mr. Treves[7] observes that "erysipelas is caused by infection with a streptococcus which grows along the lymph spaces of the skin" and the "streptococcus of erysipelas may enter the blood in such quantities as to cause fatal septicæmia." Three patients are mentioned by the Vienna correspondent of THE LANCET[8] in whom erysipelas was treated by anti-streptococcic serum, and the same authority in a subsequent contribution notes a large number of cases similarly dealt with. The medical journals during the past two years give several instances in which the serum treatment for infective endocarditis (not necessarily of erysipelatous origin) has been adopted,[9] and Dr. Sidney Ringer mentions this plan of procedure in his "Handbook of Therapeutics."[10] The British Institute of Preventive Medicine, in issuing the serum, states that it is supplied for use in cases of streptococcic infection, but adds that the remedy is still on its trial. May I express the hope that the above notes may serve as a contribution to this interesting subject?

MILL-ROAD INFIRMARY, LIVERPOOL.

A CASE OF PUERPERAL SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM; RECOVERY; BACTERIOLOGICAL REPORT.

(Under the care of Dr. NATHAN RAW.)

THE value of anti-streptococcic serum has not been very widely recognised and this is easily accounted for by the fact that it has been used in a very indiscriminate manner for any form of septic infection. That it possesses marked therapeutic value in cases in which streptococci have been proved bacteriologically to be present there seems to be no room for doubt, and the improvement which in Dr. Nathan Raw's case followed the first two injections is evidence of its utility. It has been known that specimens of the anti-streptococcic serum are liable to contain living organisms and we believe that some makers of the serum make culture tests of each portion of serum before supplying it to the public. A very small crack in a porcelain filter is sufficient to render it completely valueless. The danger is by no means small and demands the very careful consideration of those who prepare these powerful remedies.

A married woman, aged twenty-two years, was on Oct. 31st, 1897, admitted into the Mill-road Infirmary, Liverpool, under the care of Dr. Nathan Raw with the following history. She had been delivered of her first child fifteen days previously and had been attended by a midwife. There had been some trouble with the placenta. The patient had been semi-delirious for the past seven days. On admission she was in a very critical state and appeared to be dying. Her temperature was 106° F., the pulse was 146, and she was quite unconscious and wildly delirious at times. She had a dull ashen hue suggestive of septicæmia. The uterus was felt to be enlarged, reaching up to the umbilicus. Although the temperature was so high it was quite evident that the only chance for the patient was to give her an anæsthetic and to explore thoroughly the uterus in order to remove any placenta which might be present. The temperature was temporarily reduced to 102° by ice. When the patient was under chloroform Dr. Raw dilated the cervix rapidly and introduced two fingers into the uterus, which was felt to be almost full of some soft friable substance. Between three and four ounces of stinking placental débris were removed and then the walls were thoroughly curetted and the uterus was washed out with perchloride of mercury solution (1 in 4000) until it was quite clear. Dr. Raw then injected 20 c.c. of anti-streptococcic serum under the skin of the back. An hour afterwards the patient had a severe rigor and the temperature rose to 105°. She was rubbed with pieces of ice and her temperature was reduced to 99°. She was ordered quinine (ten grains every two hours), brandy, and Slinger's suppositories. The uterus was to be washed out with perchloride of mercury solution (1 in 5000) twice daily. On the following morning (Nov. 1st) a remarkable change had taken place. The temperature was normal, the pulse was 110, her mind was quite clear, the headache had gone, the skin was moist, and the respiration was steadier. She expressed herself as being quite well; at night her temperature rose to 101°, but she had no discomfort. The uterus had contracted and was not painful on pressure. On the 2nd the temperature was 100°. She was not so well, being drowsy and suffering greatly from headache. The quinine was reduced to five grains every four hours and 10 c.c. of anti-streptococcic serum were injected between the scapulæ. The effect of the injection was again marked as the temperature fell to normal and her headache and other bad symptoms disappeared. On the 4th she was not so well; the temperature again rose to 103°, the pulse was 110, small and soft, there were great headache and thirst, and she had an anxious and pinched expression. 10 c.c. of serum were again injected with the same result, the temperature falling to normal and the headache disappearing. The uterine douche was discontinued. On the 5th the temperature was normal and the patient felt quite well, taking nourishment well. She continued to progress favourably until the 12th, when she was seized with great pain and a rigor; the temperature was 103°. There was thrombosis of the saphena and femoral veins of the left leg with great swelling of the thigh. On the 14th the pain and swelling were less but the thrombosis was almost complete in the femoral vein. On the 25th the patient suffered from pain in the back and abdomen with vomiting and at night she was seized with great pain in the iliac region. The temperature was 102° and there was evidently thrombosis of the iliac veins, the legs being still greatly swollen. On the 30th there was thrombosis of the right femoral vein and evidently another thrombosis of the internal iliac vein. She was taking nourishment well. For a few days previous to Dec. 14th her temperature had been rising and she had had great pain in her back, especially over the left kidney. She had all the symptoms of congestion of the kidney,

[1] Vol. iv., p. 150. [2] THE LANCET, Nov. 20th, 1897.
[3] Sequels of Diseases, p. 75. [4] THE LANCET, Feb. 29th, 1896.
[5] Quoted by M. Thoinot in "Bulletins et Mémoires de la Société Médicale." [6] Vol i., p. 840, 1896.
[7] System of Surgery, pp. 164 and 162.
[8] THE LANCET, Jan. 4th, 1896.
[9] Dr. Sainsbury: THE LANCET, Oct. 17th, 1896. [10] Page 685, 1897 ed.

there being blood and albumin in the urine. She was passing only thirty-six ounces daily. The thrombosis had possibly extended from the iliac vein to the left renal vein. The thrombosis in the other veins was increased on Dec. 14th and the patient's condition was very grave. On the 15th she was passing only twenty ounces of urine, which contained blood and albumin but no casts. She was ordered an effervesing drink frequently. On the 17th she had a severe rigor, the temperature being 105°; 20 c.c. of serum were given. The urine was dark coloured and contained blood and albumin. By the 31st she had made a good recovery. She had been passing seventy ounces of urine daily, but on that date the urine was noticed to be foul-smelling and to contain a large quantity of pus. The urine was of specific gravity 1030, neutral, and no casts could be made out. On Jan. 16th, 1898, she had made steady progress towards recovery and was walking about the ward, the only noticeable symptom being that she was passing between four and six drachms of thick greenish pus, but without any discomfort. The pus was mixed with the urine and took some time to deposit in the glass. The bladder had been washed out three times daily since the appearance of the pus but without any diminishing effect. The pus was submitted to careful bacteriological examination. On the 18th she had another severe rigor, the temperature being 105°. There was great pain over the left kidney, a large quantity of blood being present in the urine and more pus. Phenacetin administered in ten-grain doses reduced the temperature to normal. The urine contained a large quantity of blood and six drachms of pus in twenty-four hours. On the 30th the patient was well but there was still pus in her urine. She was discharged recovered.

Bacteriological report on the urine, blood, and anti-streptococcic serum, by Dr. CHARLES A. HILL (from the Pathological Laboratory, University College, Liverpool).—On Jan. 16th I received from Dr. Raw for bacteriological examination a sample of the urine in the above case. It had been drawn off by catheter into a sterile test-tube about two hours previously. In amount it measured about four drachms; it was strongly acid in reaction and so loaded with pus that it was impossible to draw up any of it through a pipette. Accordingly a loopful was taken with a sterile platinum needle and smeared over the surface of two gelatin and two agar Petri dishes. After twenty-four hours' incubation at 37° C. both agar plates showed numerous colonies of a dirty grey, greenish hue—microscopically a highly motile bacillus, which on subculture was identified as the bacillus pyocyaneus. After forty-eight hours there appeared in addition numerous minute dotted colonies of a light-brown colour, which on subculture in beef bouillon at 37° C. formed tangled masses, consisting of long-twisted chains of cocci, and on the oblique surface of nutrient agar minute brownish colonies like grains of sand. On gelatin minute white colonies grew slowly without producing liquefaction. Milk was coagulated in forty-eight hours. This organism was without doubt the streptococcus pyogenes longus. The gelatin plates after forty-eight hours' incubation at 22° C. showed a profuse growth of a greenish liquefying motile bacillus which on subculture was identified as bacillus pyocyaneus. In addition there were many colonies of a white non-liquefying staphylococcus which corresponded most closely in subcultures with staphylococcus cereus albus. The urine of Jan. 16th, therefore, contained three different micro-organisms—namely, bacillus pyocyaneus, streptococcus pyogenes, and staphylococcus cereus albus, the former being the most numerous. This same sample, after being kept in the laboratory for a few days, acquired a marked green colour due to the growth of the bacillus pyocyaneus.

Seeing that the urine contained no less than three varieties of micro-organisms I thought that an examination of the blood might possibly yield an equally interesting result. Accordingly I supplied Dr. Raw with an agar roll-culture tube and on Jan. 25th he inoculated it with blood taken from the tip of the finger with careful antiseptic precautions. After forty-eight hours' incubation at 37° C. numerous white and yellow colonies appeared scattered throughout the medium. On subculture these all rapidly liquefied gelatin and were identified as staphylococcus pyogenes albus and citreus. No streptococci were found; their absence, however, at that date is not to be wondered at, seeing that the patient was up and about the ward with a normal temperature.

Such untoward results had followed the use of anti-streptococcic serum in this case—apparently due to the serum itself—that much doubt was felt to exist by both of us with regard to its purity and freedom from micro-organisms. I determined, therefore, to examine bacteriologically the remains of a bottle of the dried serum which had been used on two occasions. The bottle was about half full of dried serum, its label signed and dated in the usual manner. The dried serum was first of all dissolved in 5 c.c. of sterilised distilled water; a cubic centimetre of the resulting liquid was then added to two melted agar and gelatin tubes respectively with a sterile pipette and the mixture poured into Petri dishes with the usual precautions. After incubation of the plates for forty-eight hours I found that our doubts with regard to the purity of the serum were indeed well founded. Numerous colonies had made their appearance on both agar plates incubated at 37° C. The majority were glistening white circular colonies of staphyloccci, which on subculture rapidly liquefied gelatin and were identified as staphylococcus pyogenes albus. There were, however, others less numerous, minute circular pin-head colonies, light brown in colour and faintly granular when magnified, which exactly resembled in appearance the streptococci colonies found on examination of the urine. Three beef bouillon tubes were at once inoculated from these colonies selected from different parts of the plate and incubated at 37° C. In twenty-four hours it was found that a copious development had occurred in all three tubes. At the bottom of the tube lay a white flocculent mass surmounted with almost clear bouillon. On making coverslip preparations stained with methylene blue it was at once evident that this was a pure culture of streptococci. Long twisted chains of cocci were to be seen everywhere throughout the preparation, stretching in some instances almost across the field of the microscope. No other organisms whatever were present. Subsequent inoculations on agar and gelatin slope tubes gave typical cultivations of the streptococcus pyogenes. Professor Boyce kindly inoculated a guinea-pig for me with 5 c.c. of a bouillon culture of this streptococcus, but without producing any result beyond a local swelling at the seat of injection. The gelatin plates after incubation at 22° C. showed colonies of white staphylococci but no streptococci. I find therefore that the anti-streptococcic serum contained living staphylococci and streptococci—hardly a remedy to be termed innocuous and beneficial. The presence of staphylococci in the specimen of serum examined may possibly be explained by contamination from the air, the bottle not being freshly opened; but such an explanation can hardly suffice for the presence of living streptococci, aerial contamination of this kind being practically unknown. Rather must it be due to imperfect and defective methods of preparation and the passage of living organisms through the filter. Here, then, we have an explanation of the various after-effects which are recorded as following the injection of anti-streptococcic serum. Schleicher,[1] Law,[2] Braithwaite,[3] and Durno[4] mention urticaria, copious erythema, and joint pains. Durno[5] further records erysipelas at the seat of injection followed by a large abscess and thrombosis of the right femoral vein. Williams,[6] Sheen and Davies[7] met with pneumonia following its use. Josias,[8] who injected it in 96 cases of scarlet fever, records that in 4 streptococcic abscesses formed at the point of injection, in 7 purpura occurred, and in 8 lymphangitis. Gaulard[9] mentions bilious vomiting and meteorism followed by death of the patient subsequent to its use. In the large majority of cases, however, in which this serum has been used (over 350) no ill-effects are recorded as following its injection. Filtration has therefore been effective in removing living organisms. The possible presence of micro-organisms should, however, be always borne in mind.

Numerous cases have been recorded in English and foreign journals during the past three years of the use of anti-streptococcic serum in puerperal fever. I have been able to find 89 cases recorded with 25 deaths, a mortality of 28 per cent.; but as in the large majority no bacteriological examination of any kind has been made such figures are useless. In 41 cases the bacteria present have been determined; 14 died, a mortality of 34 per cent. The organisms

[1] Wiener Medicinische Presse, July 5th, 1896.
[2] Brit. Med. Jour., Jan. 2nd, 1897.
[3] Transactions of the North of England Obstetrical Society, 1897, p. 75.
[4] Brit. Med. Jour., Oct. 30th, 1897.
[5] Loc cit.
[6] Brit. Med. Jour., Oct. 31st, 1896.
[7] Ibid., Dec. 19th, 1896.
[8] Semaine Médicale, May 20th, 1896.
[9] Presse Médicale, Nov. 30th, 1895.

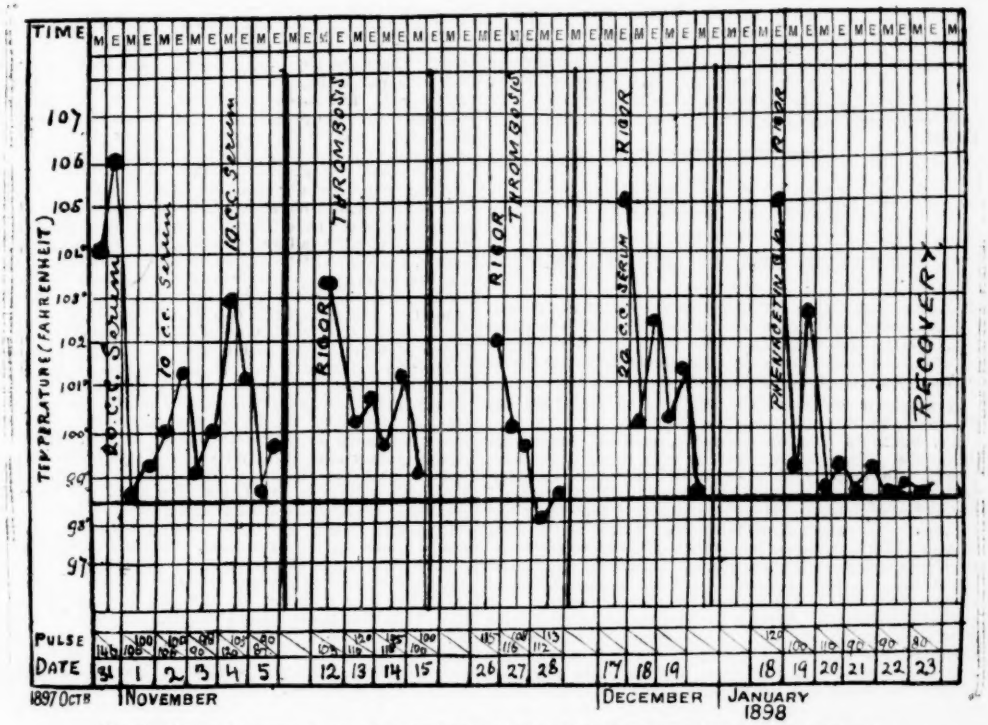


Chart illustrating the course of a case of puerperal septicæmia in a primipara, aged twenty-two years, treated with anti-streptococcic serum. (Under the care of Dr. Nathan Raw.)

found in these 41 cases are as follows: in 29 cases streptococci alone were found, in 5 cases streptococci and staphylococci, in 4 cases streptococci and bacillus coli, in 2 cases Klebs-Löffler bacillus and staphylococci, and in 1 case no organism could be found. The organism most commonly present is the streptococcus pyogenes, either alone or combined with staphylococci or bacillus coli communis. Further, Krönig[10] has shown that the gonococcus is capable of producing puerperal fever, so that we have to deal with a disease in which several different micro-organisms may be the determining agent. To inject haphazard in all cases of puerperal fever a remedy like anti-streptococcic serum, which is claimed to be antagonistic only to streptococcic infection, is in my opinion pure empiricism. Its use is justifiable only after bacteriological examination has revealed the presence of streptococci as the offending agents.

Remarks by Dr. NATHAN RAW.—The injection of anti-streptococcic serum in all pyogenic affections appears to be very much on the increase of late and in some places to be almost a routine practice. It is now generally admitted by the profession that anti-diphtheritic serum is of great value in counteracting the activity of diphtheria organisms, but it must be remembered that there is a great difference in the preparation and action of these two remedies. Anti-diphtheritic serum is prepared by inoculating nutrient broth with the bacilli of diphtheria and preserved at a constant temperature in an incubating chamber for a certain time. The bacilli increase in enormous numbers and in their growth produce a poisonous principle which remains in solution in the broth. The bacilli are then separated from the liquid by filtration, the filtrate being injected into a horse, the serum from which is anti-diphtheritic serum. The preparation of anti-streptococcic serum is quite different and is made by injecting not dead toxic substances into an animal but living virulent streptococci in large and repeated doses for several months, the serum being then carefully filtered through a Chamberland filter to get rid of any organisms, the important difference being that whereas anti-diphtheritic serum is a true antitoxin anti-streptococcic serum is not so and so far as is known at present exerts antimycotic properties rather than antitoxic, any curative or therapeutic properties being due to its power of destroying specific bacteria in the blood. The above case is recorded with a twofold object: first, to emphasise the benefits of the serum in suitable cases—viz., those acute fevers due to infection by streptococci as in puerperal septicæmia—and secondly, to sound a note of warning against the promiscuous use of a very powerful drug in all or every case due to pyogenic infection. I have used the serum several times and have come to the conclusion after careful observation that it produces very serious symptoms some of which led me to believe that the serum itself was not free from living organisms and the careful bacteriological report given above confirms my suspicion by demonstrating living streptococci in the dried serum which was used for injection. This, in my opinion, is a very serious matter when it is considered that there are thus introduced active streptococci into the blood of a patient already containing them. The above remarkable case of puerperal septicæmia illustrates the great benefits to be derived from the serum, at the same time exhibiting the ill-effects of its injection. I have no doubt that the life of this patient was saved by the first two injections of serum as the effects were immediate, particularly the fall of temperature and the reduction in the pulse-rate. On the other hand I feel convinced that the serious symptoms developed afterwards were due directly to the serum. So certain did I feel of this that I had the serum carefully examined showing the presence of active streptococci. The first two injections were fluid serum; the remainder dried serum dissolved in distilled water. The complications noted were a tendency to thrombosis in the large veins and acute congestion of the kidney probably due to the efforts the kidneys were making to get rid of the organisms, and secondarily acute streptococcic pyelitis due to the presence of these micro-organisms in the pelvis of the kidneys. Several writers, including Durno, Cummins, and Haultain, have noticed serious complications following the

[10] Centralblatt für Gynäkologie, 1893, Band viii., p. 157.

use of the serum, and in conclusion I would like to make two suggestions: (1) that the presence of streptococci should be demonstrated before the serum is used; and (2) that the serum used should have a guarantee of being free from active organisms, as unless the process of filtration through porcelain (or that which is used in actual practice—viz., a Chamberland filter) is perfect it is quite conceivable that streptococci and other organisms may find their way into the filtrate.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Innominate Aneurysm.—Tuberculous Disease of the Frontal Bone.—Sequestrum of Rib after Empyema.—Angioma Serpiginosum.—Condition of the Knee due to Rickets.—Palpation and Auscultatory Percussion.—Plastic Operation after Removal of Rodent Ulcer of the Face.

A MEETING of this society was held on Feb. 14th, the President, Dr. SANSOM, being in the chair.

Dr. SEYMOUR TAYLOR showed a case of Innominate Aneurysm. The patient was a man, aged forty-three years. He complained of pain in the right shoulder, with a "lump over the inner end of the right collar-bone." He had always been a temperate man and had never had syphilis. On examination there was found a pulsating tumour which involved the inner thirds of the supra- and infra-clavicular regions and also to a slight extent the manubrium sterni and the first, second, and third costal cartilages on the right side. The sterno-clavicular articulation was partially dislocated. Besides the tumour or bulging there were the other cardinal signs of aneurysm of the aorta or of the large vessels springing therefrom, that is to say, dulness over the tumour, diastolic shock, and at times a distinct thrill. The heart was hypertrophied and there was a faint systolic murmur loudest at the apex. The only pressure signs which existed involved the venous system, the arterial system, and the nervous system, as the patient had marked engorgement of the veins at the root of the neck and upper part of the chest, the left pulse was somewhat smaller than the right, and the same remark applied to the left pupil. He, however, had no cough, no dysphagia, and no palsy of the vocal cords. The case was brought forward principally to elicit the surgical opinion as to the advisability of ligature of the subclavian and the common carotid arteries.—The PRESIDENT observed that it was usual in cases of innominate aneurysm to have dilatation of the aorta at the origin of the artery. He had examined this patient and thought that there was a distinct tracheal tug.—Dr. MAGUIRE agreed with Dr. Seymour Taylor that in the case of a working man it was inadvisable to adopt the plan of sending the patient to bed for a long period and asked if anyone could point to any instance where, after twelve months' treatment, such a man had been able to resume active work. Where an aneurysm was pressing on the trachea or the œsophagus and had given warnings in the shape of small hæmorrhages long rest on the back did harm as the aneurysm then beat directly against the point where rupture was threatened.—Dr. A. H. ROBINSON said with regard to the question of the possible benefit from distal ligature he might mention the case of a woman who had an aortic aneurysm for which Mr. Heath ligatured the common carotid. She had immediate relief and was able to lie in a much more comfortable manner than before. She died six months later.

Mr. STANLEY BOYD showed a lad with Tuberculous Disease of the Frontal Bone for which removal of most of that bone had been performed. The patient was a youth, aged nineteen years, who was admitted to Charing-cross Hospital in February, 1897. He had been quite well up to twelve years old; then he began to suffer from "bad eyes" and photophobia. At the age of fifteen years he went to the Westminster Ophthalmic Hospital, where he was said to have double cataract. A double iridectomy upwards was performed and the left lens was removed. Five or six months before admission to Charing-cross Hospital a swelling formed in the frontal region of the scalp, burst, and discharged a large quantity of matter. On admission there was an ulcer the size of a shilling over the coronal suture just to the right of the mid-line exposing carious bone. The frontal region was considerably but irregularly swollen and hard. The whole calvarium was tender. No distinct swelling was found on any other bone. The sight was extremely bad. The right lens was opaque. The left cornea was nebulous marginally, but no trace of old vessels could be discovered. The fundus could not be seen. The left globe seemed rather too prominent. The bridge of the nose was fair; there was no discharge. The upper central incisors were slightly narrowed at their free edges and showed a faint central notch. No other signs raising suspicions of congenital syphilis were found nor could any history of it be obtained. On Feb. 20th and on March 26th tuberculous glands were cleared out of the neck. Meanwhile the frontal swelling had increased steadily and was softening at the most prominent points. On March 31st a cut was made down to the bone from zygoma to zygoma just in front of the ulcer on the coronal suture; this was excised, the scalp was elevated on either side of it, and the frontal flap was turned down on to the face. To its deep surface adhered much cheesy stuff and flakes of bone. The frontal bone was everywhere worm-eaten and the greater part of the squama of the frontal bone, the orbital arches, and much of the orbital plates were removed; in the neighbourhood of the ulcer the bone was a good deal thickened and sclerosed. The dura mater on being exposed was found to be covered with opaque yellow stuff as tough as old fibrin laminated. No unfavourable symptoms followed, but it was soon found that without sutures the frontal flap could not be kept in position. It slid down further and further towards the root of the nose, falling into deep transverse wrinkles. It could not be drawn up with strapping. Its rigidity seemed to be due to contraction of the frontales muscles and the edges could not be got even partially together until the whole of this layer had been dissected off from the deep surface at the risk of dividing the supplying vessels. No trace of tubercle was seen. The flap was fixed in position by stitches, drainage being provided for, and all now went well. The patient left the hospital healed on May 23rd, 1897, the sight of the left eye having distinctly improved.—Mr. SPENCER WATSON thought that the case was unique. He certainly would not have expected such a perfect result. He inquired whether there was any proptosis such as usually occurred when the orbital plate was diseased.—Mr. MARMADUKE SHEILD said that tuberculous disease of the bones of the skull was very rare, while syphilitic disease was common. He remembered a case under the care of the late Mr. George Pollock in which there was an exactly similar condition of the occipital bone in a patient of the same age. That case was believed to be syphilitic and he was inclined to think that the condition of the eyes in Mr. Stanley Boyd's patient was in favour of that diagnosis in this case also.—Mr. BOYD, in reply, admitted the difficulty of distinguishing between the two conditions. The idea of syphilis was always in his mind, but there was no evidence, and the surgeons at the Westminster Ophthalmic Hospital did not think that the eye troubles were due to that cause. He thought that tuberculous disease of the cranial bones was commoner than was often taught. There was some proptosis of the left eye before the operation.

Mr. MAURICE LING showed a Case of Empyema in which a Sequestrum of Rib was removed by means of injections of dilute Sulphuric Acid. The patient, a man, aged twenty-five years, was attacked with pleuro-pneumonia of the right side and in less than three weeks began to expectorate pus in large quantities, later as much as half a pint night and morning, yet he gradually gained some strength and was able to get about. Five months from the commencement of the illness there was pain with tenderness and bulging of the lower part of the right chest; an incision was made and four pints of pus escaped. Five weeks later a piece of the sixth rib was removed, some adhesions broken down, and a counter opening made posteriorly in the ninth space, a large drainage-tube being drawn through both openings; this was afterwards divided and the anterior opening quickly healed; a probe inserted in the posterior opening could be felt in the anterior triangle of the neck and bare bone could be felt in the track. On injecting water into the sinus with a catheter it went directly into a bronchus, so no injection could be used. However, five years from the commencement of the illness injection of water proved that the opening into the lung had closed and dilute sulphuric acid (1 in 11) was now injected into the sinus. This was repeated on two occasions and at the end of a fortnight the patient was seized

whilst in bed with sharp hæmorrhage from the sinus and what was said to be crumbled bone was discharged. The wound healed in a few days. It was remarkable to see how quickly—just a week—the finger-tips, which had been very clubbed while the discharge lasted, began to diminish in size as evidenced by the wrinkling of the skin, as soon as the sinus had healed.

Dr. MORGAN DOCKRELL showed a case of Angioma Serpiginosum. The patient, a phlegmatic woman, aged twenty-one years, had suffered from this disease since she was three months old. She had always enjoyed good health with the exception of the eruption which appeared when she was three months old as a number of red spots and lines on the face and limbs, leaving the trunk practically free. This eruption remained permanent, neither increasing nor diminishing till she was sixteen years of age, when it began to spontaneously disappear. On the face could be noticed a number of telangiectic lesions of a bright red colour and in addition a large number of flat scars could be observed where the telangiectases had disappeared. On the extensor aspects of the forearms and dorsal surfaces of the hands there were similar lesions of a purple colour which were more deeply seated and did not disappear under pressure. In addition patches of pigmentation and depressed scars were present. The condition was more marked on the thighs and legs. The case was of interest in that the lesions remained unchanged till the age of sixteen years, when they began to disappear spontaneously from the limbs without ulceration. Dr. Dockrell considered that there was no ground for still adhering to the theory that this condition was in any way a dupoid condition other than the fact that when it occurs in strumous individuals it is more apt to undergo ulceration.

Mr. WILLMOTT EVANS showed a case of unusual Rickety Knee. A boy, aged eight years, had noticed for two years that his left knee had "clicked" on bending. It caused very little inconvenience or pain. When the knee was fully flexed the inner tuberosity of the tibia was unduly prominent; on extending the joint the prominence continued until the leg was within about twenty degrees of full extension, when the tibia suddenly moved outwards, the prominence on the inner side disappearing and the outer tuberosity of the tibia forming an evident prominence on the outer side. He thought it was due to alteration in the shape of the external condyle of the femur caused by previous rickets.—Mr. BATTLE was inclined to regard the case as one of displacement of the external semilunar cartilage.

Dr. ROBERT MAGUIRE gave a demonstration on a method of Palpation and Auscultatory Percussion. He stated that further experience of palpation to which he had directed attention last year[1] had convinced him that for chest and abdominal examinations it was more delicate and accurate than percussion. By it the outlines of the heart, liver, and spleen could be easily defined by simply passing the fingers over the body wall. He demonstrated his method of its application, showing that even the sternum was no obstacle to thus defining the resistance and therefore the outline of the heart by this means. The position of the kidneys could be thus shown and also most accurately the upper border of a pleural effusion, while small areas of resistance undiscoverable by percussion could be found at times as evidence of former pleurisy or pneumonia. Auscultatory percussion was, he believed, a valuable method of physical examination, though it was in danger of falling into disrepute because of having been employed to determine the size of the heart in connexion with the Nauheim method of treatment and also because its *rationale* had always been misunderstood. By this method it was not an ordinary percussion note which was heard through the stethoscope but the knock of direct contact. It was evident, therefore, that the method could give no information as to the size of the heart, but it could define the outlines of the stomach and of the distended large intestine and was therefore of value to the surgeon before operating for stricture of the intestine. It could define, too, the outlines of the lobes of the lungs and therefore was of value in the prognosis of phthisis by showing the precise position and progress of the disease. It also demonstrated accurately and easily the relative heights of the apices of the lungs behind, an observation which was very difficult by percussion alone, but which was a valuable aid to the diagnosis of incipient phthisis since thus a slight shrinking of the upper part of the lung could be determined. He thought the method should not be allowed to pass into disuse, but it should always be employed with the understanding of its *rationale* which he had demonstrated.—The PRESIDENT said that he had found the method of palpation described by Dr. Maguire of value in the diagnosis of thickenings of the pleura or effusion or mischief at the apices. The sense of resilience of the ribs and costal cartilages was of use as well as the sense of resistance of the intercostal spaces. The value of auscultatory percussion could only be decided after much more prolonged observation.

Mr. BATTLE showed a patient on whom he had performed a Plastic Operation after removal of an extensive Rodent Ulcer of the Face. The patient, a man, aged fifty-five years, had been troubled by the ulcer for twenty-six years. It had been removed several times but had recurred. On the last occasion most of the cheek and parts of the superior maxilla and malar bones had to be removed. To cover in the large area thus exposed the nasal bones and nasal processes were removed and a flap was brought across from the right side of the face and the tip of the flap was sutured to the edge of the wound below the left malar bone. Union took place by first intention. The patient was to be fitted with an obturator to close the aperture in the roof of the mouth and was to wear an artificial nose.

[1] Practitioner, April, 1897.

PATHOLOGICAL SOCIETY OF LONDON.

Sarcoma of the Tongue.—Congenital Sinus of the Tongue.—Post-mortem Emphysema of the Liver.—Ulceration of Caseous Gland into the Trachea.—Hydronephrosis associated with Renal Calculi.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 15th, Dr. SAMUEL WEST, Vice-President, being in the chair.

Mr. HARRY LITTLEWOOD (Leeds) showed a specimen of Sarcoma of the Tongue removed from a lad, aged seventeen years, who scalded his tongue on March 25th, 1896. An ulcer formed on the dorsum near the centre and just to the right of the middle line; this never healed. He was seen by Mr. Ling and Dr. Baxter-Tyrie, of Keighley, on April 12th; the tongue was then enlarged. After this he was treated with mercury and iodide of potassium for three months, the tongue increasing in size. He was then sent into the Leeds Infirmary under the care of Mr. Littlewood. The tongue was removed on Aug. 1st, 1896, by Syme's operation and three weeks later some enlarged glands from both sides of the neck were excised. The tumour, an interstitial growth, occupied the middle two-fourths of the tongue and was of about the size of an orange, making mastication and deglutition well-nigh impossible. There were two ulcers on the dorsum, one in the site of the scald, and the other on the right side, probably produced by a tooth. Microscopically the growth was a round-celled sarcoma. A month after the last operation a secondary growth appeared in the region of the left tonsil and then the glands in both sides of the neck became enlarged and later a growth appeared in the right temporal muscle. The patient died on Dec. 29th, 1896. Before death the growths greatly increased in size, the one on the left side of the fauces increasing so as nearly to fill up the faucial aperture and making swallowing practically impossible during the last few days of life. Five or six weeks before death he suffered from great pain in the head so that sleep could only be obtained with morphia. There was no return of growth in the stump of the tongue.—Mr. TARGETT agreed with Mr. Littlewood that the tumour was a small-celled sarcoma rather than a lympho-sarcoma. The diagnosis between sarcoma and abscess and actinomycosis in this situation was often extremely difficult.—On the motion of Mr. SPENCER the specimen was referred to the Morbid Growths Committee.

Mr. PERCY FURNIVALL showed an unusual Congenital Sinus of the Tongue removed from a man, forty-two years of age, who had noticed a swelling in the middle line of the tongue for about eighteen months. When he came under Mr. Furnivall's care there was an ill-defined firm swelling in the middle line projecting half way between the tip and the roof of the mouth. As treatment with iodide of potassium had no effect he cut into the swelling and found that it consisted largely of scar tissue, probably the result of previous treatment. In excising this by a V-shaped incision through the tip he came across a duct passing backwards. It easily admitted a probe which led to the foramen cæcum. He laid this duct open and excised its wall, which proved to

be lined by stratified squamous epithelium with outer layers of fibrous tissue. He discussed the possible views which might be taken of its pathology, but did not think that the evidence justified the dogmatic adoption of any one of them.

Dr. HUBERT BOND showed a specimen of Post-mortem Emphysema of the Liver taken from the body of a man who died from senile dementia at the age of seventy-three years. The necropsy was performed eighteen hours after death. The liver was the only organ which presented any marked change. It was obviously fatty and even before it was cut into small cyst-like projections could be seen under the capsule. On handling the organ it had a spongy, crepitant feeling and floated in water. On section the whole organ was found to be riddled with minute cavities with ragged walls, some being microscopic in size, while others were 6 mm. across, the larger ones being in the deeper parts. On microscopic examination the cells in the peripheral zone were found to be fatty. The cavities were irregular in size and distribution, they had no lining membrane, and appeared to have been formed by the bursting asunder of the cells of the parenchyma. There was no appearance of inflammation. On staining with methylene blue a number of bacilli could be detected in the walls of the cavities. Other cases had been described which had been held to be caused by the invasion of an anaerobic gas forming bacillus, the bacillus aerogenes capsulatus; injections of cultures of this bacillus during life led to the evolution of gas in the tissues and this also occurred, although more slowly, if a culture were introduced after death. Infection probably took place through the intestinal tract, but no definite lesion could be demonstrated in his case.—Dr. ARTHUR VOELCKER referred to two cases of this condition which he had seen, one in a boy and the other in a man over fifty years of age. Both were suffering from cystitis with consecutive nephritis but no intestinal lesions were present.—Dr. HEBB said that he had shown specimens of this condition to the society ten years ago under the title of "Spongy Liver" and had then demonstrated that the cavities contained many bacilli. He had since seen a number of cases, mostly in patients dying slowly from cardiac disease, in whom decomposition might almost be said to begin before death.

Dr. VOELCKER exhibited a specimen showing the Blocking of the Larynx by a Caseous Gland which had ulcerated through the bronchus and been extruded into the trachea, causing death by asphyxia. The specimen was obtained from a child, five years of age, who appeared to be in good health. Her mother left her at play and when she returned twenty minutes later found her dead on the floor. Her lips were not blue. At the necropsy a gland was found to have ulcerated through the bronchus and had become impacted in the larynx just below the vocal cords. Here it acted as the ball in a ball and socket valve, allowing entry of air but obstructing its exit and so causing distension of the lungs. There were numerous caseous glands at the root of both lungs and in the neck but none in the viscera. The right side of the heart was contracted and empty. Similar cases had been published by Mr. R. W. Parker in the Transactions of the Clinical Society, vol. xxiv., and by Dr. Sidney Coupland in the Transactions of the Pathological Society, vol. xxv. Dr. Voelcker had also seen another in which death occurred suddenly in consequence, as it was supposed, of the boy being choked by a piece of apple he was eating, but the necropsy showed that the foreign body was a gland which had escaped by ulceration into the air-passages, and an exactly similar case had been related to him by Dr. Kelynack. Dr. Voelcker went at some length into the statistics bearing on the frequency of ulceration of glands into the air-passages. These showed that in the great majority of instances the condition occurred in young children under the age of five years. His figures were almost exactly confirmed by the more recent ones of Dr. F. E. Batten. Both he and Dr. Batten found that it occurred much more often in the right bronchus, possibly because it was shorter and the glands therefore were more closely crowded.—Dr. CYRIL OGLE showed a similar specimen from a child five years of age. In this case the gland had ulcerated through causing a bulging into the right side of the trachea half an inch above the bifurcation. From its position it practically occluded both bronchi. The onset of symptoms was sudden while the child was stooping. There were violent cough and dyspnœa. Tracheotomy was performed on the assumption that there might be a foreign body in the air passage, but the child died on the table. Two similar cases were recorded by Dr. Percy Kidd and Dr. Gulliver respectively in vols. xxxvi. and xl. of the society's Transactions.—Dr. LAZARUS-BARLOW thought it was hardly accurate to speak of the case reported by Dr. Voelcker as one of asphyxia seeing that there was no lividity and that the heart was found contracted after death. Although it was difficult experimentally to produce arrest of the heart by stimulation of the central end of the cut vagus, yet clinically there was no doubt that strong stimulation of the peripheral supply of the vagus would arrest the heart. In Dr. Voelcker's case he thought that death occurred from arrest of the heart through the irritation of the laryngeal mucous membrane by the extruded gland.—Dr. F. E. BATTEN said that the frequency of the occurrence of ulceration into the right bronchus had also been brought out by Dr. Gee in a paper on cases of caseous pneumonia attending caseation of the bronchial glands. This condition was much more frequent on the right side than the left and was important to recognise as the signs closely simulated those of empyema, although there was no cardiac displacement.—Dr. HEBB observed, with reference to Dr. Lazarus-Barlow's remarks, that often in cases of traumatic asphyxia there was no dilatation of the right side of the heart and no engorgement of the lungs. He had seen this even where the lips had been livid and where there was no doubt that death occurred from asphyxia.—Dr. BRADFORD said that although possibly complete arrest of the heart could not be obtained by stimulation of the vagus in dogs and rabbits, yet great inhibition, leading practically to stoppage of the circulation, could easily be induced.—Dr. VOELCKER, in reply, said that he had attributed the death to inhibition and not to paralysis from over-distension of the right ventricle.—Dr. OGLE, in reply, said that in Dr. Kidd's case also there was no distension of the right side of the heart.

Dr. L. FREYBERGER showed a specimen of double Hydronephrosis associated with Large Renal Calculi. The patient, a woman, had had no symptoms until shortly before death when she was suddenly seized with violent lumbar pain. At the necropsy both kidneys were found to be dilated and to contain purulent urine. In the calices of the right kidney were seven large calculi of a brown colour composed of urates and uric acid. The left kidney contained no calculi, but one the size of a date-stone was found impacted at the bottom of the left ureter.—Dr. VOELCKER quoted a case in which there was a similar latency of symptoms.

The following card specimens were exhibited:—

Mr. LITTLEWOOD: (1) Clavicle removed for Myeloid Sarcoma; (2) Two specimens of Sarcoma of the Hand; (3) Multiple Fibromata from the Tunica Vaginalis; (4) Scapula removed for Tumour (? Endothelioma); and (5) Undescended Testicle from an adult with complete twisting of the cord.

CLINICAL SOCIETY OF LONDON.

Removal of Stone from the Left Ureter.—Latent and Ephemeral Pericardial Effusion.—Serous Pleural Effusion treated by Incision.

A MEETING of this society was held on Feb. 11th, Mr. LANGTON, President, being in the chair.

Mr. H. BETHAM ROBINSON described a case of Hydronephrosis from Stone in the Left Ureter in which he successfully performed retro-peritoneal uretero-lithotomy. The patient was a girl, sixteen years of age, who was admitted into St. Thomas's Hospital on Aug. 7th, 1897, under the care of his colleague, Dr. Hector Mackenzie. She had had symptoms of renal colic for ten years, but during the last two years the attacks had become frequent, with an almost regular periodicity of six weeks, and were attended with hæmaturia. During the intervals she was perfectly free from pain. On vaginal examination a hard body, presumably a calculus, could be detected in the course of the left ureter just posterior to where it had relation with the vagina. On Aug. 19th an incision of five and a half inches was made from just above the internal ring upwards and outwards but with a slight curve inwards of its upper end. The abdominal wall was divided to the sub-peritoneal tissue and the peritoneum was carefully displaced off the iliac vessels and from the upper part of the pelvic wall. The ureter was thus exposed, much dilated, and it was bared to the spot where it entered the wall of Douglas's pouch. A one-inch incision was made in the length of and on the outer aspect of

the ureter and there was a great gush of smoky urine. When this had drained away and the wound was swabbed out the right index finger was passed in and a stone was felt, which was then extracted with forceps. It was composed of oxalate of lime, and it measured ⅝ in. in length and ½ in. in diameter. Its weight was 25 grains. After cleansing the wound the ureter was stitched up with fine silk and the wound united layer by layer. A gauze drain was left in the lower angle passing down to the neighbourhood of the wound in the ureter. The girl made an uninterrupted recovery without any rise of temperature or other bad signs. The whole wound was soundly healed at the end of a fortnight. All the fulness in the kidney region had disappeared and she felt no pain at all. This case was almost the exact counterpart of one published by the same operator[1] which was equally successful. In both of them this operation was preferred to Cabot's operation (vaginal uretero-lithotomy), which some might have attempted.—Mr. W. G. SPENCER said that it would have been possible to reach the stone by two other routes—viz., through the vagina or through the bladder. He quite agreed that the retro-peritoneal method was preferable to the vaginal route, but he thought that there would be some advantages in operating by way of the bladder.—The PRESIDENT said that it was always unsatisfactory to deal with hydronephrosis if there was ureteral obstruction, as there was risk of recurrence. He agreed that the route adopted by Mr. Robinson was the best for reaching the ureter.—Mr. MAKINS, who had witnessed the operation, said that it appeared to be performed with great ease by Mr. Robinson.—Mr. ROBINSON, in reply, said that anatomically the stone was at some distance from the bladder and it would have been extremely difficult to extract it from below.

Dr. S. WM EWART read a paper on Latent and Ephemeral Pericardial Effusion. He said that in clinical literature these effusions had received little notice, and he pointed out that even large effusions are often overlooked. Walshe alone seemed to have made direct reference to their occurrence and pointed to their frequency in Bright's disease and rheumatic fever. The three instances brought before the society occurred in the course of cardiac and renal affections and it was significant of the relative frequency of this condition that these cases happened to be under observation simultaneously. The same coincidence had occurred with three cases reported in THE LANCET of Nov. 21st, 1896, which illustrated the common causation of the effusion from rheumatism, valvular disease, and albuminuria. The conclusions arrived at related (1) to the hitherto apparently unsuspected frequency of these minor effusions; (2) to their short duration; (3) to their moderate size; (4) to the absence of the painful symptoms of pericarditis and of the severe pressure symptoms of large effusions; (5) to the obscurity of their pathological etiology; (6) to the desirability of their being recognised, since by that means the earlier stages of more dangerous effusions, from which they are undistinguishable by mere percussion, would not so often escape detection as seemed to have been the case in the past. Notes of two recent cases were added. In one the patient was nineteen years of age and was admitted on Jan. 24th, 1898, for cough and right pleuritic pain with coarse friction at the right anterior base but no evidence of pleuritic fluid. The characteristic signs, both anterior and dorsal, of pericardial effusion were under observation for two days. As shown by tracings they had entirely disappeared on the third day (Jan. 26th). No pericardial friction was heard at any time. The pleuritic pain had existed for seven days prior to his admission but it was impossible to say how soon it may have been followed by pericardial effusion. The other patient was forty-seven years of age and was admitted on Jan. 20th, 1898, with acute rheumatic arthritis. On examining his chest the next day well-marked signs of moderate pericardial effusion were recognised. There was no pericardial friction but great tenderness was localised with subsequently slight swelling over the right fourth and fifth chondro-sternal junctions. The arthritic pain and swelling were rapidly relieved by treatment and no cardiac murmur was heard, the heart sounds being distant. The signs of effusion were less extensive on the second day. On the third day the precordial area of dulness was normal and the "dorsal dull patch" was replaced by normal resonance, although the patient still maintained the dorsal decubitus of acute rheumatism.—Dr. KINGSTON FOWLER said that the condition described was certainly one with which most physicians were not well acquainted. He himself had not recognised it. He first asked at what site the signs of pericardial effusion were recognisable by increased area of dulness.—Dr. S. WEST observed that the question of the existence of this condition rested on the interpretation of physical signs and he also asked for the points in physical examination on which Dr. Ewart placed most reliance.—Dr. LUCAS BENHAM inquired whether emphysema would prevent the recognition of effusion in front.—Dr. TOOGOOD inquired as to the significance of the patch often met with in cases of pericarditis at the angle of the left scapula which gave all the physical signs of pneumonia.—Dr. EWART, in reply, said that the patch referred to by Dr. Toogood extended to the spine and was part of the posterior cardiac dulness. The signs of pneumonia arose because the descending bronchus passed that way and compression gave rise to the bronchial breathing, &c. This occurred both with pericardial effusions and with dilatation of the left auricle. Emphysema not only obscured the mapping out of the dulness but, in consequence of the bronchitic sounds in the dilated fringes, interfered with auscultation. The earliest site at which effusion could be recognised was a triangular patch in the fifth right interspace just outside the sternum. Good resonance in this position excluded pericardial effusion. The second site was a similar patch just below the left nipple, but accurate percussion was interfered with because resonance was often obtained in this position from the stomach. No friction had been obtained in any of the cases, although the necropsy showed in one case that fibrinous exudation had been present during life. The point on which he mainly relied for distinguishing effusion from cardiac enlargement was the shape of the right border which with practice could be mapped out with accuracy. In enlargement of the heart it was convex, while in cases of effusion it was a straight line making a sharp angle with a horizontal line near the right nipple. Confirmation of the presence of fluid would also be obtained if it were found that dulness extended beyond the apex. Further, in cases of pericardial effusion a "dorsal dull area" was invariably to be found which was situated on each side of the last three dorsal vertebræ.

Dr. WEST read a paper on a case of Serous Effusion into the Pleura of fifteen months' standing treated by Incision. The patient was a man, thirty-nine years of age, who had had the right side of his chest full of fluid for twelve months when he came under observation. There was a strong family history of phthisis and the man was probably phthisical himself. In the course of the next few weeks the chest was tapped three times, on the last two occasions with the removal of eighty and forty-seven ounces respectively. As the fluid re-accumulated on each occasion it was decided to lay the side open, and this was done three months after the patient first came under observation—that is to say, fifteen months from the commencement of his illness. A large quantity of fluid was evacuated but no rib was excised. The patient was greatly improved; the temperature, however, rose a little and at the end of a week the discharge became purulent. The lung completely expanded and in the course of a week was in close contact with the ribs everywhere, with the exception of the track in which the tube lay, and very shortly the amount of discharge did not exceed more than two or three ounces in the twenty-four hours. The patient got rapidly well and gained flesh and strength, but it was not possible to leave the tube out; a track extended a long way down, nearly to the spine. The discharge from the cavity was about two ounces daily, which was found to contain tubercle bacilli. Reference was made to another case of serous effusion which had lasted for eighteen months, and was also treated by incision. It was recorded in the Transactions of the Medical Society of London about two years ago. This patient also got perfectly well and has remained well up to the present time, more than four years from the commencement of her illness. Excision of the ribs should not be practised as a routine part of the operation but only done when necessary for efficient drainage. Dr. West added that about two years ago he had recorded the case of a woman, thirty-one years of age, who had had an effusion into the pleura on the right side for a period of more than twelve months. He performed repeated paracentesis, and when this failed to cure it he had the side opened and the case treated like one of empyema. The patient ultimately recovered completely and was left without any deformity of the chest.—

[1] Brit. Med. Jour., Sept. 11th, 1897.

Dr. G. A. SUTHERLAND said that he had found that forced respiratory movements, such as Silvester's, were of great use in bringing about good movement after long-standing effusion.—Mr. W. G. SPENCER strongly advocated the routine removal of a portion of rib sufficient to allow of a free escape of the fluid without the necessity of a drainage-tube with the risk of the introduction of pyogenic organisms.—Dr. EWART thought that tubercle was less apt to spread in parts of the lungs which were compressed, possibly because the currents of lymph, blood, and air were interfered with.—Dr. KINGSTON FOWLER also thought that tubercle did not spread so rapidly in collapsed lung, no doubt for the reason which Dr. Ewart had mentioned.

HUNTERIAN SOCIETY.

The Hunterian Oration.

THE annual general meeting of this society was held at the London Institution on Feb. 9th.

Dr. HORROCKS delivered the Hunterian Oration. He gave William Hunter's description of the placenta of one hundred years ago and showed that in its essential features it was identical with the latest description—namely, that given by Professor Leopold, of Dresden. He pointed out that the maternal and fœtal circulations were quite separate and distinct, although the two bloods were brought into very close contact, and that there was no nerve connexion between mother and fœtus. He then described the ovum and the sperm. Many illustrations were shown on the screen by means of limelight lantern slides. He discussed the heredity of an individual derived from the germ and also from the sperm and then showed that the united germ and sperm were influenced by the mother through her blood, causing the growing embryo and fœtus to be modified in such a way as to give it additional heredity, which might be called intra-uterine maternal heredity. He showed how this might be modified by conditions in the mother herself, such as food, work, environment, and disease. He showed that there was good reason for believing that poor living and hard work tended to produce males, whilst high living, especially abundance of fat, warmth, and leisure, tended to produce females. The statistics of the Guy's Lying-in Charity, taken entirely amongst poor people and collated by the late Dr. Braxton Hicks, Dr. Galabin, and himself, showed the ratio of 100 boys to 89 girls, whilst our own Royal family showed in the Royal Blue Book that out of 54 descendants of the Queen 30 were girls and 24 were boys, the ratio being 100 girls to 80 boys. He then dealt with the subject of syphilis and showed that the ovum in the ovary, the fertilised ovum in utero, and the embryo and fœtus in utero might each one become syphilised through the mother. The subject of maternal impressions was mentioned and details of published cases were given, but on the whole it was doubtful if they could be accepted as scientific; and from the numberless instances where mothers during pregnancy were profoundly affected by some great fright or other emotional disturbance, and yet no result whatsoever was manifest in the child, it was very unlikely that the fœtus ever was or could be affected in such a manner. The total absence of all nerve connexion between mother and offspring in utero bore out the same idea. The effect of the united germ and sperm and of the growing embryo and fœtus in utero upon the mother was then described and it was shown that there was very good reason to believe that the mother was affected through the contiguity of her blood with the offspring, by the father of her child through the sperm, and that therefore a wife who became a mother was so affected by the father of her child as to show such influence upon succeeding children by a different father. The subject of transmutation in transmission was discussed and also the question of heredity of diseases now said to be caused by microbes.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Tuberculous Tumours of the Brain.—Sarcoma of the Thyroid Gland.—Calcified Hæmatocele.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 9th, Mr. C. E. RICHMOND, President, being in the chair.

The PRESIDENT, before the business of the evening, referred to the great loss the society and the profession at large had sustained in the death of Professor Edward Lund and a vote of condolence with the relatives was adopted by the meeting.

Dr. TREVELYAN (Leeds) in describing the Physical Properties of Tuberculous Tumours of the Brain drew attention to the minute tubercles sometimes to be seen on their surface. Although tuberculous tumours were well defined and could often be shelled out they were rarely encapsuled. The question whether the disease arose in the meninges, cortex or subcortex, was discussed and two specimens of tuberculous tumours of the dura mater were shown. No satisfactory evidence was yet forthcoming to explain their predilection sites. As regards pathological course attention was drawn to the rarity of calcification. The frequency of tuberculous meningitis as the terminal stage and the almost constant presence of tuberculous lesions elsewhere were illustrated from the pathological reports of the Leeds General Infirmary. Finally, the evidence obtained from morbid anatomy in support of the quiescence or cure of these tumours was exemplified by a case taken from the above-mentioned reports, as well as by similar published cases. Illustrative specimens were also shown.

Mr. THORBURN, after a reference to the Malignant Tumours recorded in connexion with the thyroid gland, showed specimens from a case of Spindle-celled Sarcoma occurring in a woman, aged fifty-eight years. There was a history of nine months' growth and the primary mass involved mainly the left lobe of the thyroid gland. Metastatic growth in the right humerus was followed by spontaneous fracture of the bone. At the necropsy nodules of metastatic growth were found in the lungs and heart and the primary growth had penetrated the left jugular vein. Death resulted from involvement of the vagus with cardiac failure. The capsule of the thyroid gland was distinguishable throughout but was distinctly infiltrated.

Mr. J. E PLATT showed a large Scrotal Cyst with extensive Calcareous Degeneration of the Cyst Walls. It had been removed from a patient, aged sixty-five years, who stated that it had been in existence for nearly twenty years and that it had first appeared after the receipt of a blow upon the scrotum. The cyst wall was very thick; its inner surface was rough and shreddy, and almost all over presented large calcareous plates. Microscopic examination showed it to be composed of laminæ of fibrous tissue without an epithelial lining. The cyst surrounded the greater part of the testicle and apparently had originated in the tunica vaginalis. The various kinds of scrotal cysts which may undergo calcareous changes were mentioned and the opinion was expressed that the specimen under consideration was a calcified hæmatocele.

Dr. MOORE exhibited and described preparations of a so-called "Chloroma" from the Mediastinum of a Rabbit.

Dr. WILKINSON exhibited preparations of Bilateral Malignant Growth of the Kidneys from a child aged one year.

The following card specimens were exhibited:—

Dr. BROOKE: Illustrations of various Cutaneous Affections.

Dr. FOTHERGILL: Gynæcological specimens.

Dr. HELME: Double Ovarian Cysts (two cases); Submucous and Polypoid Myomata of Uterus.

Mr. LANCASHIRE: Photographs of Skin Diseases.

Mr. J. E. PLATT: (1) Epithelioma of Penis; (2) Polypus of Small Intestine causing Intussusception; (3) Amputation Neuromata; and (4) a Piece of Intestine from a Hernial Sac showing Ulceration from Pressure on the Neck of the Sac.

Mr. RAY: Sections of Calculi in the Prostate Gland of Man and the Rabbit.

Mr. J. W. SMITH: Sarcoma of Tarsus.

Dr. STEELL: Adrenals from a case of Addison's Disease.

Dr. WIGHTWICK: (1) Imperforate Rectum; (2) Congenital Cystic Kidneys; and (3) Malignant Growth of Jaw.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Myxœdema.—Empyema and its Treatment.—Congenital Spastic Paraplegia.

A MEETING of the above society was held on Feb. 1st, the President, Dr. ARNOLD EVANS, being in the chair.

Dr. MAJOR gave a microscopical demonstration.

Dr. T. JASON WOOD read a paper on Myxœdema in relation to a case exhibited at a previous meeting. After giving a

résumé of the knowledge of the disease since its first recognition twenty-four years ago Dr. Wood described a typical case, together with the mode of treatment by thyroid gland preparations, and laid stress upon the dangers to be avoided during such treatment.

Dr. BERRY and Dr. METCALFE read papers on several cases of Empyema and their treatment. Dr. Berry first drew attention to the unusual frequency of cases of empyema during the past year in the Keighley district. Chloroform was the anæsthetic used, the incision was made in the posterior axillary line, resection of rib was not usually practised in the first instance, and solid fibrinous material was removed as far as possible. The average duration of treatment was from six to eight weeks. Dr. Berry showed a tube which had been used in one case, devised by Mr. Hutton, of Edinburgh. It consisted of an ordinary flange tube, to which a larger tube was attached by a glass angle and the outer end of this terminated in a valve opening outwards into the dressing. The rubber flange was made to fit practically air-tight to the skin by means of a piece of gutta-percha tissue, and thus the contents of the pleural cavity were allowed to escape with every expiratory effort but air was prevented from returning by the valve. It was claimed that much more perfect expansion of the lung was attained by this means and that a tube need only be worn for a much shorter time. Respiratory exercises—e.g., the use of a wind instrument—were recommended during convalescence.—The paper was discussed by several members and Dr. BERRY and Dr. METCALFE replied.

Dr. KERR read notes of a case of Congenital Spastic Paraplegia shown at a previous meeting. The patient was a girl, five years of age. She did not walk till her third year and then only imperfectly, turning in the toes and not putting down the heels. There was nothing noteworthy at birth, but during the first three weeks of life the patient suffered from convulsions. During the five months previous to her fifth birthday she was getting worse; she talked peculiarly and spilt her food at meals. On examination she was found to be well grown, with an expressionless face, and she spoke in a slow "scanning" way. There was no strabismus or nystagmus and the optic discs and pupil reflexes were natural. There was no pain but tremors were present on voluntary movements of the hands and occasionally when at rest. The tremors could be partly controlled and did not increase in violence as the movements continued. The gait was spastic and she could not stand or walk without assistance. The attempts at walking were very imperfect; the heels were not put down and the toes seemed to catch the floor. There was no sign of spinal column or of joint disease, no wasting of muscles, and the electrical reactions were normal. For some days the presence of the knee-jerks could not be demonstrated. The patient was given nux vomica and in four or five days the knee jerks were excessive. The mental condition of the patient was rather dull. From this time she rapidly improved and was discharged at the end of three weeks. Since June last she has gone on taking strychnine for about a fortnight in each month and can now run and jump and has improved in every way except speech. Dr. Kerr discussed the diagnosis from birth palsy and pointed out the hopeless nature of cases resulting from injury during birth; in these cases there is probably an arrest of development in the pyramidal tract resulting in the spastic condition and they are generally associated with mental defect due to the cranial injuries.—Dr. MAJOR, Dr. EURICH, and Dr. MANTLE discussed the case and Dr. KERR replied.

KIDDERMINSTER MEDICAL SOCIETY.

Exhibition of Specimens.—Enlarged Prostate.—Wound of Abdomen.—New Growth of Tonsil.

A MEETING of this society was held on Jan. 28th, Mr. S. STRETTON, President, being in the chair.

Mr. J. L. STRETTON showed: 1. Two Enlarged Bursæ Patellæ removed from two women aged respectively twenty-one and twenty-two years. The wounds in both instances healed in ten days and the patients were able to be about again within three weeks. He pointed out the futility of treating such cases with tincture of iodine and other external applications and strongly recommended removal in all chronic cases. 2. A large Sequestrum removed from the upper end of the humerus of a lad aged eighteen years. He had been working in a coal-pit and did not feel anything wrong until a month before admission, when his arm began to hurt and gradually became swollen. There was no injury but a distinct tuberculous history. After operation he gained 2st. weight in a month. Mr. Stretton thought it unusual for idiopathic mischief to cause so much destruction in so short a time and felt sure the disease had been in progress for a much longer period than the patient was aware. 3. An ovary removed from a patient, aged forty-three years, for intractable neuralgic pain. She made a satisfactory recovery.

Mr. STRETTON then read notes of a case of Enlarged Prostate in a youth, aged nineteen years. The patient was of a neurotic temperament and complained of indefinite pains in the perineum. Upon examination the prostate was felt as large as a bantam's egg. He denied masturbation. After being treated for some time without benefit he was put upon thyroid tablets thrice daily, with the result that the enlargement entirely subsided and his neurotic symptoms were considerably reduced.

Mr. STRETTON also read notes of the case of a youth, aged eighteen years, who on Jan. 6th while playing with a dirty game carver pierced his abdomen. On admission there was a wound about an inch long in the middle line midway between the umbilicus and the ensiform cartilage and through it a small tag of omentum was protruding. Under an anæsthetic the wound was slightly enlarged and the omentum returned. There was no evidence of bleeding, no escape of gas, no fæcal odour, and nothing abnormal could be detected with the finger. The wound was closed and dressings were applied. No bad symptom supervened and the patient was up and about in nineteen days. Now that it is becoming more general to explore the abdomen when penetrating wounds have occurred this case is of interest, and particularly so because the wound was inflicted with a septic instrument.

Mr. STRETTON also related the case of a youth, aged seventeen years, who was admitted with what appeared to be Malignant Disease of the Left Tonsil and Soft Palate. On admission the left tonsil was as large as a walnut and spread forward along the soft palate and outer pillar of the fauces and backwards and downwards along the posterior wall of the pharynx. The glands of the neck on the same side were enlarged. A portion of the growth was sent to the Clinical Research Association and they reported that it was an innocent enlargement. On Dec. 16th the tonsil and uvula were removed; following this there was considerable swelling and an appearance of growth at the seat of operation. No improvement took place until Jan. 11th, when he was seized with an attack of acute rheumatism during which the condition of the throat improved and there is now very little enlargement to be seen.

Mr. OLIPHANT showed a case of Exophthalmic Goitre and read a paper on the subject.

LIVERPOOL MEDICAL INSTITUTION.

Sebaceous Adenomata.—Action of the Blood from a case of Spleno-Myelogenous Leukæmia upon Typhoid and Anthrax Bacilli.—Action of Normal Serum in Relation to the Differentiation of the Typhoid Bacillus from Allied Forms.—Exhibition of Specimens.

A MEETING of the Microscopical and Pathological Section of this society was held on Feb. 10th, Mr. PAUL being in the chair.

Mr. G. G. HAMILTON read a note on Sebaceous Adenomata. He tried to distinguish these from other growths of the skin and to limit the use of the term adenoma to what he considered to be its strict sense. He then described a great many pathological conditions which he had found included under the term "wen"—not only retention cysts, but adenomata, fibromata, myxomata, myeloid sarcomata, &c. The note was illustrated with casts, lantern and microscopic slides.—Mr. PAUL said he thought they were much in want of evidence as to what constituted a typical sebaceous adenoma. The sections shown as adenoma of the scalp were derived from a well-known case under the care of Mr. Rushton Parker in which the growths were proved to have arisen in the sweat glands. He thought the sudoriferous adenoma was the most usual skin growth.—A discussion followed in which Mr. PARKER, Dr. BUCHANAN, Mr. NEWBOLT, Mr. LARKIN, and Professor BOYCE took part.

Dr. BUCHANAN read a note on the Action of the Blood from a case of Spleno-Myelogenous Leukæmia upon Typhoid

and Anthrax Bacilli. His experiments were carried out by means of hanging-drop preparations of the blood inoculated from a twenty-four hours growth of typhoid or anthrax bacilli and kept in an incubator. These were examined after various periods up to thirty-two hours on the warm stage and also by drying, staining, and mounting. Controls were similarly examined. The amœboid movements of the various cells were carefully observed and described. Phagocytosis towards anthrax bacilli was exercised most markedly by the fine oxyphile and the hyaline cells, not at all by the myelocytes. There was no phagocytosis of the typhoid bacilli. Various changes in the bacilli were observed and described. Contrary to the general opinion phagocytosis was exercised towards anthrax by the coarse eosinophile leucocyte. Specimens were shown illustrating the various observations made.—A discussion followed in which Professor SHERRINGTON, Dr. GRÜNBAUM, and Mr. ROSS took part.

Dr. CHRISTOPHERS read a note on the Action of Normal Serum in Relation to the Differentiation of the Typhoid Bacillus from Allied Forms. He held that serum diagnosis was not of so much use as had been expected in the differentiation of the typhoid bacillus. He in common with others had found that most typhoid human sera caused agglutination of undoubted colon bacillus, even when considerably diluted (from 1 to 30 to 1 to 200). This action, he found, was just as powerful in normal human serum. Colon organisms from milk, sewage, shell-fish, and other sources were experimented on with like results. Horse serum was found to act in almost exactly the same way as human. He thought the varying degrees of dilution he had to use depended on the degree of attenuation of the organisms and not on the serum used. After describing in detail, with lantern illustrations, the various experiments he had performed he urged (1) that it is of very great importance in serum diagnosis of typhoid bacilli to recognise the extreme state of attenuation and consequent susceptibility in which organisms may exist in natural media like milk and water; (2) that unless the state of attenuation of an organism be first determined it is useless to apply a specific serum as a differentiating agent; and (3) that it is probable that this action of normal serum on greatly attenuated organisms is capable of explaining many contradictory results in the diagnosis of the typhoid bacillus by the serum method.—Professor BOYCE, Dr. GRÜNBAUM, and Dr. ABRAM discussed the note.

The following specimens were shown:—

Dr. DUTTON: Endothelioma (with lantern demonstration).

Mr. PAUL showed a purely Colloid Cancer from Centre to Margin with a single Colloid Axillary gland from a woman, aged forty-one years.

Professor SHERRINGTON showed a very beautiful series of preparations of Salamander Epidermis illustrating Karyokinesis.

Mr. DOUGLAS CRAWFORD (for Mr. BARK) showed: (1) a section of a Fragment of Epithelioma of the Larynx removed for diagnostic purposes; and (2) a Pathological Preparation illustrating a cause of painful inter-phalangeal joint.

Dr. BUCHANAN showed: (1) specimens of Sputum from Asthma Cases, and demonstrated that the cells of the sputum were almost without exception coarsely granular oxyphile leucocytes; and (2) a specimen of Charcot-Leyden Crystals and several of Curschmann's Spirals. He showed that these latter may be simple or compound and described their physical and chemical characters, their microscopical constituents and how he believed they were formed.

Mr. STANLEY KELLETT SMITH showed some Gall-stones from the horse illustrating a rare result of mutual compression. They were all perfect cubes.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Ligature of the Subclavian Artery.—Litholapaxy.

A MEETING of this section was held on Jan. 21st, Mr. LENTAIGNE, President, being in the chair.

Mr. HENRY GRAY CROLY detailed the history of a case of Traumatic Aneurysm which involved the third stage of the Left Subclavian and the Third Stage of the Axillary Arteries. The patient was stabbed with tailor's scissors immediately below and above the clavicle; very severe arterial hæmorrhage followed. On admission to hospital the hæmorrhage was merely oozing; there was a huge hæmatoma beneath the clavicle and no radial pulse could be felt. Restorative treatment was adopted and pressure was applied; under this treatment, with perfect rest, the tumour gradually diminished and the pulsation became less forcible. In November, 1893 (six months after the injuries were inflicted), the patient left the hospital, returned home and resumed his work. A large aneurysmal tumour soon formed and the man was re-admitted to the hospital on Feb. 15th, 1895. He was placed under treatment again and perfect rest enjoined. On Dec. 2nd, 1895, Mr. Croly ligated the subclavian artery in its second stage. The artery having been exposed a deeply curved aneurysm needle was passed under it from below and then armed with a double ligature of goldbeater's skin. The ligature next the heart was first tightened with a reef-knot; the pulsation in the aneurysm ceased immediately and the radial pulse could not be felt. The second ligature was then tightened and the four ends were next secured across the vessel by means of the "stay-knot." The ends of the ligature were cut off and the wound was closed. Every step of the operation was carried out strictly in accordance with aseptic rules. The incisions were closed by means of gut sutures and the arm and shoulder were enveloped in cotton-wool and flannel bandages. The patient made an uninterrupted recovery and was exhibited to the members at the Surgical Section of the Academy in January, 1896. His arm, forearm, and hand are now normal; he works and lifts weights.—The PRESIDENT remarked that the actual mode of applying the ligature was important, the walls of the vessels not being injured, but only approximated, allowing the irritation to produce entire occlusion and adhesion of the walls.—Sir WILLIAM STOKES said that the result showed that a clot formed at the situation of the ligature—a thing which some authorities say is impossible. He thought that Mr. Croly's method of passing the aneurysm needle from below upwards and outwards was the best, as by so doing the subclavian vein ran least risk of being injured. Some text-books say that the needle should be passed in the opposite direction—from without inwards—in order to avoid including the last cord of the brachial plexus; but he considered that the subclavian vein was a much more important structure and that the nerve could be avoided.—Mr. T. E. GORDON considered that it made little difference what the ligature was composed of provided it was perfectly sterile; silk was excluded. He had been practically satisfied with the use of catgut boiled in superheated alcohol, a method which did not render the catgut brittle. He had found kangaroo tendon very brittle.—Mr. CROLY, in reply, said that he had always been in favour of approximating the coats of an artery by Scarpa's method. There was no case on record of secondary hæmorrhage from any artery in its continuity where Scarpa's method had been adopted.

Surgeon-Major BAKER brought forward a Report on a Series of 404 Litholapaxies performed by him when acting as civil surgeon in Hyderabad during the period from Feb. 1st, 1896, to Jan. 21st, 1897, together with fourteen lithotomies performed for various reasons during the same time and exhibited the calculi removed during these operations.—The PRESIDENT, Mr. CROLY, and Brigade-Surgeon-Lieutenant-Colonel POTTER made some remarks and Surgeon-Major BAKER replied.

MEASLES AND SCARLET FEVER ON BOARD TRAINING SHIPS.—Quite recently the training ship *Lion* at Devonport was relieved from the special sanitary supervision rendered necessary by the outbreak of measles on board. Since then measles and scarlet fever have broken out on board the training ship *Impregnable* and several cases have been sent to the Royal Naval Hospital. An outbreak of measles has occurred on the cadets' training-ship *Britannia* at Dartmouth and several cadets have been removed to the shore hospitals connected with the ship.

TORBAY HOSPITAL, TORQUAY.—The report of the Torbay Hospital, Torquay, shows that during 1897 the total expenditure of the hospital was £2019 as against £1953 in 1896 and that at the end of last year there was a deficit balance of £63. The medical report states that 319 in-patients were admitted during the year, 484 were treated as out-patients of the ophthalmic department, 543 dental cases came under treatment, and 260 new members had joined the provident dispensary.

Reviews and Notices of Books.

The Diseases of Women: A Handbook for Students and Practitioners. By J. BLAND SUTTON, F.R.C.S. Eng., Surgeon to the Chelsea Hospital for Women, Assistant Surgeon to Middlesex Hospital, London; and ARTHUR E. GILES, M.D., B.Sc. Lond., F.R.C.S. Edin., Assistant Surgeon, Chelsea Hospital for Women, London. With 115 Illustrations. London: The Rebman Publishing Company, Limited. 1897.

As indicating the scope of this work we may quote the Preface, which is commendably short, consisting, indeed, of one sentence only: "In writing this book it has been our earnest desire to relate facts and describe methods belonging to the science and art of gynæcology in a way that may be useful to students for examination purposes and which will also enable them to practise this important department of surgery with advantage to their patients and with satisfaction to themselves." The opening chapters on the Anatomy and Physiology of the Reproductive Organs in Women are clear and accurate. The same may be said of the description given of the methods of examination. But we think, for the comfort of the English student, it would have been well to point out that the dorsal position is generally more objectionable to patients than the lateral position, and that, with practice, information can be as well obtained in the latter as in the former. In referring to the necessity of dilating the cervical canal the authors say: "Tents were formerly used for this purpose, but they are always tedious and often unsafe, and except in special circumstances it is better to carry out dilatation at one sitting." Either rapid or slow dilatation may be unsafe unless proper precautions are observed. It is quite possible to use laminaria tents with perfect safety, while, on the other hand, if rapid dilatation is employed in unsuitable cases, or unskilfully, serious accidents may occur, and many such have actually been known to happen. We observe that in their article on Œdema of the Vulva the authors advise small punctures as a palliative measure. We think it should be stated that this apparently trivial operation is not free from risk. Erysipelas with a fatal result has been known to follow it even when every care was taken as regards antiseptic precautions. In describing the appearance of the parts in cases of diabetic pruritus it seems to us a little insufficient to say that "the margins of the urethra and the vestibule are congested," since in many cases the whole of the external genitals is affected and their appearance is extremely characteristic. We should say that it is generally also quite unnecessary to shave the pubes to cure cases of pediculi pubis. In describing the treatment of epithelioma of the vulva we do not see any recommendation given as to removing the glands in the corresponding groin when they appear to be involved. For cystocele associated with retroversion of the uterus vagino-fixation is here advised as often answering well. For gonorrhœal vaginitis rather energetic treatment is suggested. The patient is anæsthetised and after irrigation the vagina is to be swabbed out with glycerine and carbolic acid (1 in 10) or chloride of zinc (ten grains to the ounce). But why do the authors advise that the cervix should be similarly treated and why especially that a uterine probe may be dipped into the solution and applied to the uterine cavity when the case is one of vaginitis only? In the account given of anteflexion of the uterus there is a paragraph on the treatment of this condition: "vaginal pessaries are absolutely useless," with which we quite agree; but the text goes on: "Two courses are open: first, dilatation of the cervical canal; secondly, a plastic operation." We think that in a work for students it would have been well to emphasise the undoubted fact that in the large majority of cases no active local treatment is required. Similarly many cases of retroflexion require no local treatment, though we think the uninstructed reader would here gather that the reverse is the case. We are interested in the statement that "it is also important to remember that women may conceive even so late as their fifty-ninth year." It is one of those cases where we should like to have seen the authors re-investigate the evidence or perhaps give us "modern instances." The late Vice-Chancellor Malins ordered money to be paid out of court in the case of two women, one a widow, aged fifty-five years, and the other, a spinster, aged fifty-three years and eight months, when their claim rested on the presumption that they were past child-bearing. But in another case Vice-Chancellor Wickens, declined to act on the presumption where the woman was in her fifty-third year. We are glad to see that the authors are of opinion that "the removal of a myomatous uterus through an incision in the belly-wall is a grave proceeding even in the hands of dexterous and experienced operators," and that they consider "it is the rule not to interfere with uterine myomata unless they directly threaten the patient's life." Yet practically no mention appears to be made of the medical treatment in those cases, the large majority, in which, according to the authors themselves, surgical treatment is unjustifiable. We also observe that as regards the so-called deciduoma malignum the authors do not consider that there is sufficient evidence that it necessarily arises in retained fragments of decidua or placenta. By the way, the statement that "in many cases cancer of the cervix leads to enlargement of the uterus" (if the authors mean by this the body of the uterus) is certainly wrong. Curiously we see no mention of pain among the symptoms given of cancer of the body of the uterus—an important and frequently an early symptom. As regards this disease the authors say: "Little accurate knowledge is forthcoming in regard to its early stages." Still, they might give their readers that little. "From the age of thirty-five onwards cancer of the uterus must always be thought of as a possible cause of hæmorrhage," is a statement likely to lead the student into thinking that cases do not occur before the age of thirty-five years, whereas cancer of the cervix is by no means uncommon in the ten years preceding that age. A little paragraph, excellent in its way, on cleaning and disinfecting a catheter unfortunately concludes as follows: "Before using a catheter it should be wiped with a piece of sterilised gauze and *thoroughly oiled*." The italics are ours, for nothing is said of the aseptic or antiseptic properties of the oil.

There are many good features about the book: it is convenient in size, the print is good, and many of the illustrations are excellent. There is also a good section on the Bacteriology of the Normal Vaginal and Uterine Secretions, and the directions given for operative work appear generally to be sound. The authors seem, however, to be "of little faith" as regards medical treatment; and the *vis medicatrix naturæ* plays a useful part in gynæcology as elsewhere when it is given the chance.

Sir James Young Simpson and Chloroform. By H. LAING GORDON, M.D. Edin. Vol. III. of "Masters of Medicine." Edited by the late ERNEST HART, D.C.L. London: T. Fisher Unwin. 1897.

THIS story of Sir James Simpson's interesting and eventful life well maintains the reputation of the series to which it belongs. It is a story of remarkable—almost exceptional—success. Of humble origin—he was the youngest son of a hard-working, thrifty baker in the village of Bathgate, near Edinburgh—Simpson rose through sheer force of character and untiring industry to a degree of fame, wealth, and social influence such as it is given to few men to attain. How

much of his success he owed to the pure Scottish blood derived from his father and how much to the Huguenot strain in his mother's ancestry is an interesting, if fruitless, speculation. There is no question that his first start in his "hard and uphill battle of life for bread and name and fame," of which he himself spoke with pride, was due to the unselfishness of his relatives. It was, and indeed still is, the custom among Scottish folk of humble rank to single out one member of the family for a higher education than the remainder. If possible he will be trained for the ministry, failing that he will enter one of the other learned professions. There is something of the heroic in the devotion with which Simpson's family, and particularly his eldest brother Alexander, toiled on at their humble work to support him through his university career and never once doubted that he would attain to fame and honour. How splendidly he rewarded their efforts by attaining a degree of fame and honour such as their wildest hopes could scarcely have anticipated everyone knows, though many outside Scotland will have forgotten or failed to realise how remarkable his position was. For a time he was the foremost man in Scotland. The anecdote which relates how the King of Denmark when an Edinburgh citizen was presented to him remarked, "You come from Edinburgh? Ah, sir, Simpson was of Edinburgh," may be quoted in proof. His house in Green-street was an intellectual centre and no distinguished foreigner visiting Edinburgh failed to obtain beforehand an introduction to the Professor. "Statesmen, noblemen, artists, scientists, clergymen, and politicians from various countries," writes Dr. Laing Gordon, "sat down together" at his breakfast table "and entertained each other, or attempted to do so, in their different languages." Probably Simpson owed his peculiar social position and power equally to his marked individuality and personal strength of character and to his great scientific and professional reputation. He will always be remembered as the prince of obstetricians and gynæcologists and as the introducer of chloroform into surgical practice. It was almost by accident that quite early in his career his attention was turned to the study of obstetrics. Once he had selected this branch of medical science he threw himself into it heart and soul. In 1840, ten years after qualifying, he obtained the chair of midwifery in the University of Edinburgh. The choice lay between Simpson and Dr. Kennedy. The struggle was a keen one, but Simpson loved a fight and he eventually won, though the expenses of his canvass reached the sum of £500 and he was elected by the narrow majority of one vote. It is told of him, and nothing more characteristic could be told, that finding his chances of obtaining the chair as a bachelor to be exceedingly small he disappeared from Edinburgh for a time and triumphantly reappeared with a fresh qualification for his candidature in a wife, a lady with whom he had corresponded for some time and whom he had married in the interval. His services with regard to obstetrics and gynæcology were very great, though he left behind him no single work dealing with these subjects, most of his writings upon them being in the form of scattered articles in magazines and transactions of societies. It is probable that his name will come in time to be associated in the popular mind solely with his "discovery" of chloroform. Dr. Laing Gordon has rightly devoted considerable space to an account of the introduction of anæsthetics and the part which Simpson played in it, and he has given still greater prominence to this event in his life by entitling the volume "Sir James Young Simpson and Chloroform." The history of anæsthesia has been so recently and fully retold in connexion with the jubilee of its introduction that we need not go over the well-worn ground again. The great credit of Simpson—the real service which he did to mankind—lay not only in his discovery of the anæsthetic properties of chloroform, but in his energetic defence of it against the attacks which it sustained from moral and religious and even scientific objectors. And in defending chloroform he equally defended all other forms of anæsthetics, though he was perhaps inclined to magnify its superiority over its rivals. "He was the one man who by his own individual effort established the practice of anæsthesia," writes Simpson's latest biographer, and if he had done nothing else this would have secured for ever his claim to be regarded as a master of medicine. Of his other services to medicine—his introduction of acupressure, his attacks on hospitalism, and his efforts on behalf of university reform and medical reform in general, or of his really remarkable contributions to the study of archæology—we have not space to speak. It is astonishing that in his comparatively short life he was able to do so much in other fields while satisfying the demands of his enormous and exacting practice. He died at the age of fifty-nine years, literally worn out by overwork. His reputation is so well established that a fresh biography can scarcely hope to add to it, but Dr. Laing Gordon's volume should serve to emphasise the immense debt of gratitude which the world owes to him.

The Surgery of the Head and Neck. By LEVI COOPER LANE, A.M., M.D. Berol., M.R.C.S. Eng., LL.D., Professor of Surgery, Cooper Medical College, San Francisco. Published by the Author. Pp. 1180.

IT is somewhat unusual to find a work on "regional surgery" dealing with so large a portion of the body as the head and neck. Many of the structures met with in it are identical with those contained in other parts of the body, so that the descriptions given would be almost equally applicable to the regional surgery of one of the limbs. It cannot, however, be denied that there are many structures in the head and neck which are well deserving of separate treatment; and, indeed, treatises on the surgery of the brain, on the surgery of the ear, and similar portions of the head and neck are common enough, but we do not remember to have seen before this any work dealing with the whole of the surgery of this part of the body. There are many advantages in having in one work the surgery of such an important region, but the volume would have probably best appeared as part of a general treatise on surgery. The consideration of the injuries and diseases of the eye has been omitted and in the case of the ear only the external meatus and the mastoid cells have been included, but even with such omissions enough has remained to fill more than 1100 large pages, yet the adoption of a thin, though opaque, paper has kept the size of the volume within reasonable limits. The author is evidently well acquainted with the literature of his subject both ancient and modern, but though we find citations of the views and practice of many other surgeons on almost every page we think we are correct in saying that not a single exact reference is given by which the source of the quotations can be consulted. This is somewhat a pity, as all who would be likely to read or consult a book such as this would be likely at one time or another to want to refer to the authorities from whom the author quotes.

The injuries and diseases of the scalp occupy the first three chapters and the following three are concerned with the cranium and its contents. Dr. Lane claims to have been the first to perform craniectomy for microcephalus in May, 1888, but the child unfortunately died about forty-eight hours after the operation. He has performed the operation in one other case, but when he wrote this chapter sufficient time had not elapsed to enable him to see the ultimate result, though some slight improvement had already occurred. In the succeeding chapters the ear, frontal region, nose and maxillary sinus are dealt with. The surgery of the superior maxilla is separated from the chapter on the antrum of Highmore by chapters on Plastic

Surgery, the Surgery of the Eyebrows and Eyelids, and of the Malar and Parotid Regions. The mouth, lips, tongue, palate, tonsils, pharynx, sublingual region, and the lower jaw all receive fair treatment and the same may be said of the remaining subjects contained in the volume—namely, facial neuralgia, the thyroid gland, tumours of the neck, wounds of the neck, the œsophagus, the larynx and the trachea, the vessels of the neck, spina bifida, and fracture and luxation of the cervical vertebræ. Enough has been said to show that the subject has been dealt with in a thorough manner and we feel sure that all who read the book will find instruction in its pages, for the author has often his own way of looking at debateable points, but we think a smaller volume on the same lines would have been likely to find a larger circle of readers. 110 illustrations are present, and of these most are original, but still many more would be required to fully illustrate the book.

Administrative Report of the Madras Municipality for 1896-97. Madras: Thompson and Co., 33, Popham's-broadway. 1897.

THE health officer, Mr. J. Nield Cook, of the Madras municipality at the commencement of his report furnishes two useful charts, the first showing the monthly birth- and death-rates (per 1000 per annum), the rainfall, temperature, price of food, barometric pressure and the average velocity and prevailing direction of the wind in 1896, and the second showing the monthly mortality from fevers, dysentery, diarrhœa, and cholera in 1896 and the mean rates for the previous ten years. These charts afford an excellent summary of the facts and of the prevailing general conditions likely to influence the state of the public health. Passing over those portions dealing with the history of the general changes, the financial, social, sanitary, engineering, educational, and other subjects which form a large part of the report, we may briefly refer to some of the sanitary and medical points more directly affecting the public health. Vaccination, which appears to be very well carried out in Madras, is largely dealt with. The high percentage of success obtained there in re-vaccination has been repeatedly commented on and doubts have been thrown on the accuracy of the statistics. The re-vaccinations are done directly from the calf in Madras, and the health officer apparently regards the results as reliable. The protective influence of even a single vaccination, and especially so far as mortality from small-pox is concerned, for the fatality amongst the unvaccinated was more than three and a half times greater than among the vaccinated, is illustrated by figures. There are no available statistics to show the number of vaccinated and unvaccinated persons in the town of Madras, but the unvaccinated population, amongst whom seventy-nine attacks of small-pox occurred, is a very small one compared with the vaccinated population, as shown by the statistics of birth and infantile population.

The ratio of mortality in Madras from all causes per 1000, calculated on the estimated population for 1896, was 35·4. The rise from fever, diarrhœa, and dysentery in May is attributed to chill. Paradoxical as it may seem to refer the rise in fever mortality in the hottest part of the year to this cause (chill) it is explained by the fact of the people sleeping in the open air, often on damp ground, without any sufficient clothing. Many of the fatal cases of malarial fever are complicated, too, with pneumonia. We must refer the reader to the report itself for a description of the measures taken for prevention of plague in Madras: "A number of false reports of plague were received, but the correct diagnosis was in all cases easy and up to the time of writing no true case in man or rat has been reported. No undue dependence, however, is placed on the fact that Madras is outside what is known as the 'plague belt,' being considerably below 20° N. latitude, for it was found that the plague microbe remained healthy and produced strong colonies when cultivated on agar under ordinary conditions in Madras." The report appears to us to be a sound and good one.

Oral Surgery: a Text-book of Diseases of the Mouth, intended chiefly for the Use of Students of Dentistry By EDMUND W. ROUGHTON, M.D. Lond., F.R.C.S. Eng., honorary visiting surgeon to the National Dental Hospital. London: J. P. Segg and Co., 289 and 291, Regent-street, W. Philadelphia, U.S.A.: S. S. White Dental Manufacturing Co. Pp. 223, with 68 Illustrations. 1898.

THIS book, as the title indicates, is intended chiefly for the use of dental students, but we think that it can be also cordially recommended to every student of medicine. The book is tersely written, the various subjects are admirably arranged and classified, and thoroughly up to date. The first chapter, which is devoted to Fractures of the Mandible and Maxilla, contains a fair account of some of the interdental splints in general use, but the author has omitted to figure and describe Mr. W. Hern's excellent modification of the Gunning type of splint. In Chapter V., which is devoted to Periostitis of the Jaws, the author, in discussing the question as to the advisability or otherwise of retaining an affected tooth, lays stress, and we think rightly, on the point that in all cases of doubt a consultation between the dental surgeon and the medical man should be held when possible.

The chapters on Acute Alveolar Abscess, Necrosis of the Jaws, and Empyema of the Maxillary Antrum are well and clearly written. In dealing with Odontomes the author adopts what is practically the classification introduced by Mr. Bland Sutton with the exception that he classifies a true dental cyst under the same heading as an epithelial odontome—namely, "an aberration of the enamel organ."

Tumours of the Gum, Palate, Maxilla, and Mandible are clearly and concisely described, while a chapter is devoted to Leontiasis Ossea, Acromegaly, and Osteitis Deformans. In the chapter on Diseases of the Temporo-mandibular Articulation the author has overlooked hypertrophy of the condyle. In dealing with fixity of the mandible we must disagree with the statement "that the pressure which it [the third molar] exerts upon neighbouring parts produces a reflex tonic spasm of the masseter and internal pterygoid muscles." Such a condition due to tooth irritation if it occurs at all is extremely rare. The closure of the jaws is the result of inflammatory exudation into the tissues and the interference with the movement of the mandible passes away gradually and not suddenly in such cases. The treatment suggested—namely, opening the mouth with a screw-gag under the influence of *chloroform*—is certainly not to be recommended. The use of this dangerous anæsthetic in such cases is quite uncalled-for, nitrous oxide gas or ether in practice proving quite sufficient. The chapter on Stomatitis is well arranged, as also are the sections of the book dealing with Syphilitic, Tuberculous, and Parasitic Affections of the Mouth. Diseases of the Lips, Cheeks, Floor of the Mouth, and Salivary Glands are described and in addition there are two chapters on Foreign Bodies in the Upper Air and Food Passages and Operations on the Upper Air and Food Passages. Altogether Mr. Roughton is to be congratulated on this excellent text-book.

LIBRARY TABLE.

Hygiene for Students and Nurses. By JOHN GLAISTER, M.D., D.P.H. Camb. London: The Scientific Press, Limited. 1897.—The larger part of this manual, we see by the preface, originally appeared in serial form. These papers, with certain additions and alterations, are now reprinted as a book which contains enough to make it useful for medical

students as well as nurses. It is well arranged. First of all the house is considered generally; then lighting, warming, ventilation, and water-supply; next come personal hygiene and the effects of occupation upon health, the question of clothing being deferred till later; next are treated the all-important subjects of drainage and sewage disposal; clothing is taken next and then are considered the more purely medical subjects of prevention of disease, microbes, climatology, infection, and disinfection. The legal aspects of sanitation are dealt with, and there is a closing chapter on isolation hospitals. The book is written in a very clear and simple manner, so that it should be easily understood, but we think that in a future edition some mention ought to be made of the "Exeter" method of sewage purification by means of bacteria and in the chapter upon disinfectants the use of formaldehyde should certainly be referred to.

Air, Food, and Exercises. By A. RABAGLIATI, M.D., F.R.C.S. Edin. London: Baillière, Tindall, and Cox. 1897. Price 5*s*.—With Dr. Rabagliati's dictum that most people eat too much and also of the wrong matter we are in thorough accord, but as to his ideas upon pathology, or rather etiology, we can only say that at present the weight of evidence is not on his side. That an excess of starchy food is bad for the organism is doubtless true and very likely leads to what Dr. Rabagliati calls "triphthæmia carbonifera," but we should doubt whether herpes, tonsillitis, apoplexy, pneumonia, Bright's disease, and diabetes are all manifestations of this blood change. That the system may be weakened by improper food so that organisms have a fair field for their work is in our opinion a more likely view. However, Dr. Rabagliati's opinions are clearly set out and his thesis is worth reading.

Elementary Physiology for Nurses. By C. F. MARSHALL, M.D., F.R.C.S. London: The Scientific Press, Limited. 1897. Price 2*s*.—This is an excellent little book and one which does not err in the way that so many elementary books do in trying to teach too much. There is quite enough in it, however, for the class for which the book is intended and the physiological processes are described in a very simple and plain manner, especially the portions dealing with the nervous system.

Elements of Latin. For Students of Medicine and Pharmacy. By GEORGE D. CROTHERS, A.M., M.D., Teacher of Latin and Greek in the St. Joseph (Missouri) High School; Formerly Professor of Latin and Greek in the University of Omaha; and HIRAM H. BICE, A.M., Instructor in Latin and Greek in the Boys' High School of New York City. Price $1.25 net. Philadelphia: The F. A. Davis Co.—A little book constructed upon the Ollendorf system for teaching simple Latin sentences. Medical Latin is proverbially not very good, but we think that the following sentence is even more unclassical than usual. "Medicus vetus liquore plumbi subacetatis diluto curat." Unless "ulcus" or some similar word has been accidentally omitted "vetus" must refer to "medicus" and "vetus" is hardly ever used of persons in the singular. The better word of course is "senex." In the majority of instances, however, the sentences are well chosen and the book will be found very useful by the class of persons for whom it is written.

Sell's Dictionary of the World's Press for 1898 is wider in its scope than its title implies. Apart from the admirable list of newspapers, magazines, and other publications issuing from all parts of the world which are detailed at length and with much useful local memoranda, there is a great deal which must be of value to all classes of readers in the 250 odd pages of miscellaneous information now comprised in the volume—for the first time, we think, this year—not the least valuable of which is the list of treaties of commerce between Great Britain and foreign Powers and the colonies, which it is believed are now published for the first time. Mr. Sell's book may justly be termed the "leviathan of press guides." It consists of some 1500 pages, is published at 7*s*. 6*d*., and may be obtained at 167, Fleet-street.

JOURNALS AND REVIEWS.

Practitioner.—The practical utility of skiagraphy in surgical cases is discussed at some length by Mr. C. T. Dent, who says that when embedded foreign bodies are rendered visible it is often difficult to be perfectly sure on which side of the bones they are lying. Mr. Mackenzie Davidson's method of localisation, however, appears to us to obviate this difficulty. In doubtful dislocations the x rays may absolutely establish the diagnosis, but in injuries about the shoulder they unfortunately give but little assistance. The principal part of Mr. Dent's paper is devoted to fractures of the long bones. Dr. George R. Murray writes on "Aneurism" of the Thoracic Aorta and Mr. P. J. Freyer on the Diagnosis of Stone in the Bladder. The "Hero of Medicine" is William Stokes.

Scottish Medical and Surgical Journal.—Brigade-Surgeon-Lieutenant-Colonel James Arnott concludes his elaborate and interesting contribution on Plague. In a paper on Aseptic Midwifery Dr. Robert Jardine (Glasgow) makes various recommendations of a practical nature which will be read with interest by many. Dr. James Cameron (Edinburgh) mentions that at least twelve cases of typhus fever occurred during the last two months in two Midlothian villages, the infection having been brought from Ballina in Ireland. One of these patients, a girl, thirteen years of age, seems to have been non-febrile, which perhaps means that she had reached the convalescent stage when first seen. There are four other original communications.

Edinburgh Medical Journal.—The opening article is by Mr. Richard Barwell, who writes on Pes Planus and Pes Cavus. Dr. Alexander Morison publishes a first instalment of his Morison Lectures in which he gives much practical information relative to the Golgi-Cajal and other methods of staining nervous tissue. Dr. A. Campbell Clark, of the Lanark County Asylum, describes his experience of the therapeutic value of Spleen Extract. Altogether there are eight original articles.

Dublin Journal of Medical Science.—This number contains five original communications, the first of which is on the Surgery of the Stomach and is by Mr. J. S. M'Ardle. Mr. R. G. Patteson gives an account of Two Cases of Tetanus Successfully Treated by Antitoxin.

Écho du Bien.—This is the first number of a new monthly journal devoted to the proceedings of life-saving and philanthropic associations. The opening article, the author of which is Dr. F. Cogrel, gives some account of "Les Œuvres de Mer," a society formed for the purpose of improving the condition of the men engaged in the cod fishery on the banks off Newfoundland. It is well known that a great many Frenchmen, mostly Bretons, follow this occupation. Dr. Cogrel's description shows that the men's life is a very hard one and that sanitation is not even thought of on board a fishing schooner. The price of the journal is 50c. (5*d*.); the office is at 121, Rue Oberkampf, Paris.

Mercy and Truth.—Mr. F. W. Marshall, of Lao-Ling, North China, mentions the case of a little girl whose foot had to be amputated in consequence of disease of the bones induced by the practice of foot-binding. Variety is given to the pages by the insertion of a hymn written by Dr. Oliver Wendell Holmes for the dedication of a new hospital a Hudson, Wisconsin.

Stethoscope.—This is the name chosen by the students of the Bristol Medical School for their journal, the first number of which appeared in January. The editor has made a very promising commencement.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 19, 1898.

THE Right Hon. J. B. BALFOUR, the Lord Advocate for Scotland in the late Liberal Administration, obtained the eighth place in the private members' ballot list for the Midwives Registration Bill, which is now under his charge. The Bill was introduced to the House of Commons on Feb. 11th when it passed its first reading and is now set down for second reading on May 11th. We understand also that the first place on the list for that day has been secured by Mr. BALFOUR, so that the Bill will now probably come to a division, unless—a contingency which always has to be reckoned with—Government should take the allotted time for Imperial affairs. The names on the back of the Bill, in addition to Mr. BALFOUR'S, so far as we know at present, are those of Mr. EGERTON and Mr. SKEWES-COX, both of whom have on other occasions had charge of substantially the same measure, Mr. COSMO BONSOR, Mr. J. H. JOHNSTONE, Mr. SCHWANN, Mr. WALTER HAZELL, and Mr. TENNANT. There is now no doubt, therefore, that the medical profession is face to face with a new piece of legislation the possibilities of which are far-reaching and important. What the result of the division on the second reading will be we do not attempt to guess; and what influence medical men at this stage of affairs can bring to bear upon Parliament, either by way of furthering or by way of preventing the second reading, is not very easy to gauge; but one thing is certain—the time for making up our minds with regard to the merits or demerits of the Bill has now come. We should add that Mr. BALFOUR'S Bill is the same Bill as was introduced in the House of Commons in February, 1897, by Mr. EGERTON, the text of which will be found in full in the issue of THE LANCET of Feb. 20th, 1897, p. 544. We recommend our readers to peruse the Bill carefully, for no one should express opinions on its merits or demerits without taking the trouble to master its provisions. Yet we have known this to be done.

It is universally allowed that the present system, whereby any woman, however ignorant, may attend another woman in childbed without any check being imposed on the possibility that she may not only kill the patient but constitute herself a focus for the spreading of puerperal fever, is one that requires a remedy. We are in the habit of talking of a Midwives Registration Bill as a bill for the relief of the sick poor, but a bill with such an object as this works directly as well as indirectly for the good of all classes. By the present Bill, which is stated in its memorandum to have been chiefly designed in order "to enable the public, and especially such of the poor as are in the habit of employing midwives, to distinguish between those midwives who have been trained and have given evidence of being competent for their duties and those who have not," it is certainly hoped to obviate the occurrence of gross cases of malpraxis and criminal carelessness examples of which we have occasionally chronicled in our pages, and in so far as this is the design of the Bill it deserves and has our support. But that support is very qualified, for we are not sure that the Bill will effect its avowed object, while it opens the door to abuses which may in the aggregate be worse for the public than the evils it proposes to remove, even if they are not so sensational in particular instances. Immediately we leave the pious aspirations of the memorandum and come down to details we are involved in practical difficulties for the solution of which the Bill offers in its phraseology or its provisions no facilities. Midwives always have existed and always will exist, and women, especially among the poorer class of the community, will continue to be attended by a midwife instead of a medical man, a choice which, though it may appear to well-regulated minds very foolish, must be reckoned with in dealing with the question and may be dictated by pecuniary considerations. This point is not in dispute at all: the question is how shall there be provided for those who require them midwives who shall be at the same time adequately instructed and properly subordinated to the medical profession? An Act is required which will on the one hand protect the poor from the ignorant, dirty, and degraded practices of certain so-called midwives and on the other will be able to supply an order of midwifery nurses who will not trespass upon the proper precincts of medical practice—who will not, in fact, practise in contravention of the Medical Acts. We look upon the present Midwives Registration Bill as an honest but unsuccessful attempt to arrive at a middle path between the two desiderata. Midwives by it are to be placed on a properly kept register after passing a proper examination. The scope of their duties and the stringency of their examinations are to be settled by a board consisting of twelve registered medical practitioners and six other persons to be appointed by the Privy Council. So far so good. Here we have the instructed midwife receiving her instructions from a board the majority of which is to be composed of medical men. But unfortunately the Bill omits entirely to say what instruction the midwife will receive and *what will be the limits of her sphere*. Not one hint is given as to the line which is to be drawn between the duties of the registered medical practitioner and the duties of the registered midwife. The medical profession is required to take all this, a most important part of the Bill, upon trust, and for our part we advise the medical profession to do nothing of the sort. It is possible to conceive a board, chosen, as this board is to be, by the councils of corporations and public bodies in coöperation with the Privy Council and not by the vote of the medical profession, that would often be at fault over practical points when attempting to decide upon the precise relations that should exist between general practitioners and persons who are to work under them. Before the medical profession can be expected to approve of this Bill it must be shown that the Medical Act of 1858, the Act whereby it is secured "that persons requiring medical aid should be enabled to distinguish qualified from unqualified

practitioners," will not be contravened by the creation of an order of semi-qualified persons. So far from considering with some of the supporters of the Bill that the proper sphere of the new midwife and her curriculum of scientific education had better be left without Parliamentary discussion to the decision of a board, we consider that it is most important that these matters should be thrashed out at once. They are the essence of the Bill, for on their definition depends the whole question of whether the measure is to protect the poor or to expose the poor to more frequent risks.

Midwives, as we have said, are a recognised institution. The public intend to have them and the talk about dispensing with them entirely is idle nonsense, and remains idle nonsense even when based upon elaborate long-division sums to prove that if all the parturient women were divided up by all the names on the Medical Register there would only be an average of so many cases for every medical man. The quotient is uninteresting because all parturient women do not desire male attendants and all medical men do not desire to attend midwifery cases. The intervention of the midwife must be regarded as necessary, upon which it follows that she must be clean and also that she must not usurp the functions of the medical profession and so endanger the lives of her patients by undertaking work for which she has not received adequate medical and surgical instruction. Under Mr. BALFOUR'S Bill such usurpation may take place—at any rate, all medical men have a right to assume that it may while the legal duties of the new midwife and the range of her education remain in doubt. For this reason, and this alone, we hold that Mr. BALFOUR'S Bill should be resisted by the medical profession, though other points might be adduced, without taking captious exceptions to the wording, to prove that the measure is not very logically conceived. We instance in conclusion two such points. Firstly, the newly registered midwife would at once in great measure take the place of the unqualified assistant whom the General Medical Council's decision has recently doomed to extinction, for everyone knows that the chief use made of the unqualified assistant was as obstetric adjuvant to or substitute for his principal. Secondly, the Bill proposes to register existing midwives who can prove that they have been engaged in practising their art for two years. But if the Bill is required to relieve the poor from the perils incident upon the ministrations of these persons surely it is absurd for the Bill to legalise such ministrations.

THE foundation of the PRINCE OF WALES'S Fund in commemoration of HER MAJESTY'S most beneficent reign and for the support of the hospitals of the metropolis was an event of the greatest possible interest from many points of view. The Fund and the principles upon which it has been partially distributed are no doubt open to criticism. The PRINCE himself would be the last person to wish to discourage any criticism on the part of those who have sincerely at heart the welfare and the efficiency of the London hospitals. His own speeches on the occasion of the first annual meeting of the Council of the Fund were those of one who is not misled by the mere name of hospital into blind support of all abuses. But after all criticism may well wait till the virtues of the movement have been fully recognised.

The hospitals of London, like those of the provinces, being properly voluntary institutions for the relief of the sick poor when seriously diseased or suffering from the effects of bad accidents, owing to some want of thought or to misunderstanding on the part of the public, have come into a position of grave financial embarrassment, compelling a closure of wards that reduces their usefulness greatly. Their expenditure has exceeded their income, according to the PRINCE'S estimate, by £70,000 a year. In many hospitals whole wards are closed, and one most meritorious institution, associated with some of the best work and most brilliant teachers of medicine, owes debts to its bankers or its tradesmen to the amount of £13,000. His Royal Highness saw in the circumstances of HER MAJESTY'S Diamond Jubilee a chance for raising a Fund that would diminish this load of debt, and with the practical benevolence which characterises him threw himself into the promotion of a Hospital Fund as a most fit way of commemorating a reign conspicuous for its progress in humanity and in knowledge of medicine. He hoped to secure, mainly from those who had never systematically contributed to hospitals, from £100,000 to £150,000 a year. The result is that he has received up to Dec. 31st, 1897, £227,553 12*s.* 5*d.* Speaking roughly—for we have not been favoured with a report—this sum is made up of donations and annual subscriptions amounting to, say, £187,553 12*s.* 5*d.* and of the proceeds of the sale of hospital stamps amounting to about £40,000. The Distribution Committee have recommended the allocation to "the principal hospitals" of special grants of £22,050 and a gift to all hospitals on the basis of the Hospital Sunday Fund of £34,776 5*s.*, making in all for the past year a gift of £56,826, the rest being invested. It is hoped that the annual subscriptions, amounting to £21,536, will be continued or increased, which sum with the interest on investments will be devoted as a yearly grant to the "deserving" hospitals. A very noticeable feature of the recent meeting of the Council of the PRINCE OF WALES'S Fund was the passing of a resolution, moved by Sir WILLIAM MACCORMAC and seconded by the Rev. J. GUINNESS ROGERS, appointing a committee of inquiry "to visit personally and examine the various hospitals of the metropolis with a view of ascertaining their present condition, needs, and merits for the allocation of the funds of 1898." The PRINCE spoke of this resolution as "perhaps the most important matter which we have before us to-day. ..... It will take time, of course, but I do not think it possible for us to keep to our original idea—i.e., *to assist the most deserving hospitals only—unless it is made quite clear to us which hospitals are deserving and which are managed in a proper way.*" These are words that have the practical ring about them that characterises the PRINCE when he undertakes a cause. It cannot be denied that they commit the Council to a large and difficult undertaking. But it is high time that some body having the right and having the ability should undertake an inquiry into the management of hospitals. It is the more incumbent on the PRINCE'S Council as the Council has formally declined to give its

support to the creation of a Central Hospital Board, which might have undertaken such a duty with due respect to the governing bodies of the individual hospitals. When the magnitude and delicacy of the task are realised His Royal Highness may come to doubt whether his own somewhat small Council is able to undertake the whole of it. Possibly he may think well to seek the coöperation of the managers of the Hospital Sunday Fund, who have hitherto been singularly fearful of such inquiries. Perhaps the earnestness of the PRINCE and the greater courage of his Council may stimulate the older body to a more grave recognition of its responsibilities. The words of His Royal Highness which we have italicised above will certainly lead the public to expect guidance in their support of hospitals.

We are not disposed to be critical where there is so much to praise. We are not satisfied with the amount raised and it would be plausible to say that the sum would have been larger if different classes had been appealed to and if the effort had been limited to one year—a year which in its stimulus to all that is good can never be equalled in the time of the present generation. In our judgment hospitals must rely for their main support on the rich, on the comfortable, on those who do not need them and who, out of gratitude and out of their accumulations, can easily meet the needs of those who are poor and uncomfortable and without provision at home for the treatment of grave disease or accident. The appeal for small sums has had a belittling effect on a great movement and many people who could have given large ones have taken the cue from an appeal that was meant for others. The result is undoubtedly disappointing. But it is not the PRINCE'S fault, whose goodness and influence have never been better employed than on the present occasion. The cause of voluntary hospitals has secured in him a friend who will not be content with any ineffective help. More time must be given before judging what the PRINCE OF WALES'S Fund will really effect for hospitals; but its present comparative failure will not exhaust the efforts of His Royal Highness or make him less resolute to see that the hospitals of London are placed on a sound financial basis and administered on lines honourable alike to the rich and to the poor.

THE case of ORMEROD *v.* the Corporation of Rochdale, which has just been the subject of a decision by Mr. Justice BRUCE, raises a number of important considerations in connexion with the duties and powers of medical officers of health in the seizure and condemnation of meat that is in their opinion unfit for food. In the case in question the health officer, the inspector of nuisances, and a veterinary surgeon attached to the Corporation of Rochdale all gave evidence to the effect that part of a carcase of a cow which had been seized on the authority of the health officer was unfit for food and it would appear that the owner of the carcase assented to its seizure. But before the carcase was destroyed the owner had an opportunity of getting the opinion of three other veterinary surgeons to the effect that the carcase was fit for human food and ought not to have been seized or destroyed.

The Rochdale case is one in which the carcase was that of an animal which had suffered from pleurisy and perhaps also from pneumonia; but difficulties of a precisely similar sort have constantly arisen when the seizure has been effected on account of tuberculosis. The Public Health Act, 1875, gives absolute discretion to the medical officer of health to seize meat if in his opinion it is "diseased, unsound, or unwholesome," but it reserves the power of actual condemnation to the magistrate. As a matter of practice, however, far more than nine-tenths of the meat seized never comes under magisterial condemnation, the butchers accepting the decision of the health officer rather than running the risk of publicity in open court. This presents the first element of difficulty in the Rochdale case—namely, did the butcher consent to the seizure and destruction of the carcase? This point may be the subject of further litigation and hence on this occasion we would only observe with regard to it that no medical officer of health should ever accept anything short of a written assent on the part of the owner of an unsound carcase to its seizure and destruction; indeed, it is not unusual for such officers to carry about with them forms ready prepared for signature.

When the Rochdale case came before the Manchester assizes the jury decided adversely to the view of the corporation and their officers who had declared that the meat was unsound and they awarded the plaintiff butcher £50 damages. Then arose a second difficulty. The corporation maintained that no action could lie against them because they were compelled under the Public Health Act to appoint a medical officer of health and because Section 116 of the same Act gave that officer absolute power to act on his own opinion as regards the seizure of meat. They therefore were not responsible for action taken by him under statutory powers specially conferred on him. On this point Mr. Justice BRUCE reserved judgment, but he has now decided that the corporation were responsible for the action of their officer, that as a matter of fact he acted in obedience to regulations the corporation had themselves laid down, and that he acted wrongfully in not adopting the statutory method of securing the destruction of the carcase on a magisterial decision. But from the report before us it would appear that this decision was given against the corporation partly because that body retained the power to remove their health officer on a three months' notice and to determine his salary and also that he had been appointed by the corporation to carry out regulations they themselves had laid down. It was also implied in the judgment that the matter might have been viewed from a different standpoint if the salary of the medical officer of health had been partly paid under an order of the Local Government Board and if the power to appoint and remove the officer had been subject to the control of the central authority. This seems to imply that a sanitary authority might possibly, under the latter circumstances, disclaim responsibility for the action of their officer and that the officer himself would be responsible in damages whenever his opinion was overruled. This aspect of affairs may turn out to be a very serious one for medical officers of health, but it would be improper to discuss it further in connexion with the Rochdale case because leave has been given to the corporation to appeal against the judgment of Mr. Justice BRUCE and it is not yet clear what the points are as to which the appeal will be directed. But in the meantime it will

be well for medical officers of health to act either very strictly within the letter of the law or to obtain the written sanction of butchers and salesmen whose meat they seize before destroying it or otherwise preventing its being used for food.

Annotations.

"Ne quid nimis."

THE QUEEN'S VISIT TO NETLEY.

ON Friday, the 11th inst., Her Majesty the Queen, accompanied by the Princesses Henry and Louis of Battenberg, visited the Royal Victoria Hospital, Netley, as recorded in detail in another column. The primary object of the visit was to inspect and sympathise with the wounded soldiers from the North-west Frontier of India, but as up to this date only a comparatively small number of the sick and wounded from the front have arrived at our great base hospital Her Majesty was pleased to express her wish to see as many of the patients in hospital from all parts of her dominions as the time apportioned to her visit would allow. On the day of the Queen's inspection the number of men in hospital was rather less than 400, but during the next two months some hundreds of patients are expected from India, many of whom have been wounded in action or invalided from the seat of the frontier war. The Queen arrived at the north-west door of the hospital at 12.20 P.M.; she was received by Surgeon-Major-General Nash and his staff and was conducted round both the surgical and medical divisions of the hospital. The Queen's visit lasted over an hour, and before leaving the precincts of the building Her Majesty was pleased to express her entire satisfaction to the Principal Medical Officer. We hear that it is not unlikely that H.R.H. the Prince of Wales may visit the hospital at no distant date. The last time the Queen inspected at Netley was in May, 1885, when she decorated many of the men who had been wounded in the Egyptian campaign.

RESPONSIBILITY IN ADMINISTERING AN ANÆSTHETIC.

A DISCUSSION has been carried on in a provincial lay contemporary upon the question — Who is responsible in practice for the conduct of the administration of an anæsthetic? Several deaths occurred at a provincial hospital and upon these the local press, it appears, commented. The question of such responsibility is, however, one which has a much wider interest and importance. Usually the patient admitted into a hospital is received by a resident house surgeon or medical officer, who examines his condition and reports to his superior, the visiting surgeon. When an operation becomes imperative the latter decides upon it and an administrator of the anæsthetic comes upon the scene. He may be a house surgeon, senior student, or a special officer, a member of the staff specially appointed to give all anæsthetics. Who now decides upon what anæsthetic is to be given, what method employed and in extreme cases whether or not any anæsthetic shall be given? A hospital surgeon of long standing and wide experience, in commenting upon the subject, contends that these questions lie solely within the province of the surgeon in charge of the case, upon the ground that he, and he only, has the opportunity of studying the case and so is the best qualified to sit in judgment upon the points at issue. Upon the other hand, a gentleman in general practice writes that, at least as regards private practice, he considers the surgeon as the least competent, since the family doctor, he alleges, knows all about the patient, while the surgeon views him wholly from the standpoint of his surgical malady. Probably much may be said on either side. Certainly in cases when special anæsthetists are called in the problem is more complex than when the surgeon calls upon a house surgeon to give chloroform and also occasionally to assist him at the same time. If competent medical men who devote themselves to the study of what is admittedly a large subject and one not free from special difficulties and requiring some special training are found willing to practise solely in the capacity of anæsthetist—and that such is the case is shown in the past by the valuable work of such men as Snow and Clover—it becomes a grave question whether or not they should be regarded as mere experts in the methods of giving an anæsthetic and accepting no responsibility beyond that involved in the technique of their calling, or whether, on the other hand, they have a right to determine what anæsthetic is best in any given case under any given condition. It is urged on behalf of the anæsthetists with some show of reason that when an expert is called upon to give the anæsthetic, with him should rest the onus of selecting an appropriate anæsthetic and the responsibility of giving it in such a manner as to impede as little as possible the manipulation of the surgeon and afford the patient the greatest chance of getting safely through the operation. In all cases of special doubt or difficulty a consultation between the administrator and the operator should enable the former to examine the patient and ascertain the surgeon's views and wishes.

MELANCHOLIA AND NEGLECT.

AT the recent winter assizes held at Oxford a man named Frederick James Bayzaud, aged fifty-two years, formerly a college servant, was indicted for the manslaughter of his wife. In charging the grand jury Mr. Justice Day, the presiding judge, commented on the peculiar features connected with the case and remarked that in all his experience it had not fallen to his lot to try a case of a similar nature. Husband and wife appear to have lived happily together until 1896, when the latter became despondent and negligent, the result apparently of adverse circumstances. In November, 1896, their home was broken up and they went to reside with the husband's sister. A fortnight later Mrs. Bayzaud took to bed and never afterwards left it. At this time there was no suggestion of bodily illness, but she was evidently suffering from mental depression. No more was heard of her until Aug. 17th, 1897, when a nurse, Mrs. Cox, was called in to render assistance. The nurse found the patient in a dirty and neglected condition and she refused to interfere until the woman had been seen by a medical man. Thereupon Mr. Rivers Willson was sent for. He impressed upon the husband the necessity of cleanliness and proper nourishment. At the expiration of a few days' attendance he was told not to return as they were unable to pay his fees. Under the care of the nurse the patient improved, but the nurse left after a short stay. From Aug. 27th until Dec. 1st, 1897, neither medical man nor nurse was called in, but on the latter date the services of Mr. Willson and the nurse were again requisitioned. Mr. Willson found the patient dirty and emaciated and suffering from bed-sores. He again impressed on the husband the necessity of cleanliness, proper nursing, and proper liquid food and informed him that if they could not be procured it was his duty to apply to the parish authorities, but no such application was made. An application was made, however, to have the patient certified to be insane. With this view Mr. Hitchings saw the woman on Dec. 3rd, but he was unable to grant the necessary certificate; he suggested, however, that she

should be sent to the Union Infirmary for further observation. The husband agreed, but failed to carry out his promise. He endeavoured to get his wife into the Home for Incurables, but unfortunately there was no room. The nurse for family reasons left on Dec. 3rd, after receiving the husband's promise to look after his wife and apply the necessary dressings. The woman died on Dec. 23rd. An inquest was held. The post-mortem examination revealed marked emaciation (the body weighing only 53 lb.), opacity of the membranes of the brain, tuberculous disease of both lungs, and several large bed-sores. The prosecution sought to establish that the woman's death had been accelerated by culpable neglect on the part of the husband. The nurse gave evidence as to the extremely filthy and neglected condition of the deceased and her surroundings. Mr. Rivers Willson was of opinion that death was hastened by want of proper feeding, cleansing, and nursing, and in this view he was supported by Dr. Collier, who stated that having heard the evidence he was of opinion that death resulted from three factors—viz., the mental condition, disease of the lungs, and neglect of proper nursing and feeding aided by the bed-sores. This witness did not see deceased either before or after death. Mr. Hitchings thought that the immediate cause of death was exhaustion from the discharge of the bed-sores and that her filthy condition would aggravate the sores. The defence set up was that the woman was suffering from melancholia and that the emaciation and bed-sores were the direct result of this disease. In support of this plea Mr. Sankey, of the Littlemore Lunatic Asylum, gave his opinion that the deceased died from melancholia, which was an insidious disease causing its victims to become negligent and emaciated. In cross-examination this witness stated that although the woman lay in bed unwashed for ten months it would not hasten the inevitable end and further that her condition would not necessarily hasten death. Three other medical witnesses testified that in their opinion death resulted from melancholia. The judge summed up rather in favour of the prisoner. The jury returned a verdict of "Not guilty" of manslaughter, but added a rider to the effect that there had been great neglect on the part of the husband. The whole case is a distressing and unsavoury one. It seems a pity that the poor woman was not removed to a public institution. The case was apparently one of aggravated melancholia or perhaps mental stupor, with which emaciation is often associated. The occurrence of the bed-sores might have been prevented by the exercise of proper care and attention, of which there was a sad lack on the husband's part. The marvel is that considering her surroundings the woman lived so long.

THE BOARD OF HEALTH IN NEW YORK CITY.

FOR some time past the majority of medical men in New York City have felt dissatisfied with many of the methods employed by the Board of Health. The fact is not denied that much good has been effected and that on the whole the sanitary condition of the city has been greatly improved within the past four years, mainly owing to the strict enforcement of the useful regulations of the board; on the other hand, it is considered that some of its regulations are not only useless but troublesome and even mischievous and that it has been granted by the legislature powers altogether too autocractic. For example, the late board took a stand on the question of the contagiousness of tuberculosis wholly at variance with the views of the greater part of the physicians of the city. Under its régime and under the regulations still existing it is made the duty of medical practitioners to report to the Board of Health every case of tuberculosis met with just as they would a case of small-pox, and further, another regulation requires every physician under penalty to report to the board the name of any other physician whom he has reason to believe has a patient under his care suffering from some tuberculous trouble, thus virtually making every medical man a spy upon the other. Again, the board not only manufactures antitoxin and vaccine virus, but sells it at cost price or below not only to the inhabitants of New York but to outsiders. Against these regulations a most emphatic protest was entered some time ago by the members of the New York County Medical Society (including among their numbers most of the profession in New York) on the grounds that the regulations in reference to tuberculosis were unnecessary and humiliating, while those relating to the sale of antitoxin and vaccine virus were objected to on the broad grounds that a municipality should not enter into business competition with its citizens. The classification of tuberculosis was characterised by a member of the County Medical Society as a step backward and a return to methods which were abandoned after a long trial in Europe more than a century ago. The medical profession of New York, therefore, have deemed it expedient to endeavour to curtail somewhat the arbitrary powers of the Board of Health and to have the obnoxious regulations abolished and to that end a Bill has been framed and presented to the legislature. It is explained that the Bill does not attack the board itself or wish to impair its demonstrated usefulness, but is simply aimed against the methods in which it has sometimes exercised its immense powers. It is not intended to prevent the preparation or use of vaccine by the department, but does propose to prevent its sale. It also restricts in a measure the preparation of antitoxins and withdraws the board's right to sell them. The sections of the charter relating to the Board of Health do not define the diseases that shall be considered contagious or pestilential; this has hitherto been left to the discretion of the board. In the Bill now before the legislature these diseases are specifically named.

THE OUTBREAK OF ILLNESS AT HATTON ASYLUM.

As all our readers have learned from us or different sources the attendants' ball at Hatton Asylum, Warwickshire, was held on Jan. 21st, and from the Sunday onwards the greater number of those who were present were seized with an illness characterised by severe abdominal pain, vomiting and diarrhœa. One death occurred, that of a "head nurse." Local opinion was greatly divided as to the nature of the malady, some of the medical men attributing it to some form of poisoning, whilst others declared that it was an outbreak of influenza with marked abdominal symptoms. The case for the poisoning theory rested on the coincidence that nearly all the cases appeared to occur shortly after the ball and in all but one instance (so far recorded) in those who had partaken of food within the asylum. It is natural that the asylum authorities should deny that the food-supply was tainted or in any way tampered with by the patients who assisted in the kitchen, as has been suggested. But the possibility that the food-stuff might have been affected and yet that this condition might not have been detected by the cooks is evident from Dr. Sidney Martin's remarks in Allbutt's "System of Medicine" (vol. ii., p. 789):—"Moreover, it is known from experiment that the inert toxic products of putrefaction are present in the earlier and not in the later (foul-smelling) stages of the process." The fact that in some of the persons attacked the symptoms did not set in until some days after the ball was greatly against the theory. The very explicit letter from Dr. Miller which we

published in THE LANCET of Feb. 12th, p. 467, amply corroborated the opinion which we had previously formed. He pointed out that if the epidemic was due to ptomaine poisoning it was evident that all the food was in a diseased state, even to the jelly and the blancmange. We are glad that such a satisfactory explanation of the "mysterious epidemic" has been forthcoming from a trustworthy source.

KISSING THE BOOK.

AN interesting passage in support of the remarks which we have made from time to time upon this subject is to be found in the annual report of a medical officer of health, Mr. F. D. Lys, to his district council—namely, that of Wareham and Purbeck. Mr. Lys says: "The death of a police constable at Coombe in the parish of Langton in January was registered as due to acute ulceration of the throat and there is every reason to attribute his fatal illness to the dangerous practice, from a sanitary point of view, of kissing the book in being sworn. He had attended the sessions at Wareham and given evidence within a few hours of the commencement of the attack. The sanitary state of his cottage was satisfactory and the water-supply was proved by analysis to be excellent." This unfortunate case affords one more argument, and that a strong one, for doing away with a repulsive and useless custom. As we have so many times said before, either (and far preferably) the Scotch form of oath ought to be adhered to or if the book must be employed the laying of the hand upon it while repeating the words of the oath ought to be considered sufficient.

THE LONDON SCHOOL BOARD AND THE EXCLUSION OF CHILDREN FROM SCHOOL.

MR. HARRIS, the medical officer of health of Islington, discusses in his quarterly report for the third quarter of 1897 the manner in which certain regulations issued by the London School Board are carried out in practice. Regulation No. 148, paragraph iv., of the "Code of Regulations and Instructions for the Guidance of Managers, Correspondents, and Teachers" reads as follows: "Children excluded because of infectious disease or because of infectious disease in their homes, as defined in the 4th paragraph of Section III., must not be allowed to return to school unless a certificate has been received from the medical officer of health stating that the premises are free from infection. Head teachers will note that the certificate forwarded by the medical officer of health merely states that the premises from which the children come are free from infection, and does not certify that the children are in a condition to be permitted to resume attendance at school, for it may be that, though the premises are free from infection, the children coming from such premises may be sickening for an infectious disease. It will be necessary, therefore, for a further period of seven days to elapse, before the return of such children to school, unless the medical officer of health shall specially certify that a longer period is necessary." The provision here set forth remains in practice a dead letter—at least, this is Mr. Harris's contention. He thinks that the visitors and teachers who have so much at heart the attendance of the scholars evidently overlook this very sensible precaution, and he considers that there should be some person whose duty it is to see that the rules are faithfully carried out. We can offer no opinion as to whether or not the rule in question is carried out, but if it is not some reform should be brought about. Government solely on paper is both eminently misleading and unsatisfactory, and it is difficult to draw any legitimate inferences from a regulation which may or may not be in operation. This question of the adequate control of infectious disease among the school-attending population of London is clearly reaching a somewhat acute phase, and we notice that at the meeting of the Metropolitan Branch of the Society of Medical Officers of Health which is to be held to-night the question of the relationship between medical officers of health and the School Board for London in connexion with this matter will receive consideration. It appears, too, that the council will submit a report recommending that a communication be sent to the School Board pointing out that medical officers of health will be compelled in future to more frequently exercise their power of recommending the closure of schools if the Board does not coöperate with them in the prevention of infectious disease.

DIPHTHERIA MORTALITY IN GERMANY.

THE Imperial Statistical Office has recently published the returns of the causes of death in the towns of Germany of more than 15,000 inhabitants from the year 1885 to the year 1895. These returns show that from 1885 to 1894 there were 119,038 deaths from diphtheria or croup, the average number thus being 11,904 per annum. The maximum was reached in 1893 by 15,860 deaths and the minimum in 1888 by 9934 deaths. In 1895, when diphtheria antitoxin was first used on a considerable scale, the deaths went down to 7266. The diphtheria death-rate was 10·69 per 10,000 of the population in the preceding ten years and only 5·4 in 1895, so that the mortality had fallen 49·48 per cent. Of 100 deaths 4·53 were caused by diphtheria from 1885 to 1894 and only 2·53 in 1895. The decrease of the death-rate from diphtheria was almost uniform in every district of the empire; the prevalence of the disease was, however, about the same as it had been for the last twenty years, and it is therefore unquestionable that the serum treatment has had the effect of producing a remarkable improvement.

MEDICAL OFFICERS AND BOARDS OF GUARDIANS: A VERY HARD CASE.

A CASE of great interest to Poor-law medical officers has just been decided at Stowmarket county court. Dr. Orby R. M. Wood claimed the sum of £2 from the Stowmarket guardians for medical attendance in accordance with the order of their relieving officer. The plaintiff's solicitor (Mr. A. F. Vulliamy), instructed by the Medical Defence Union, stated that in March last Dr. Wood, one of the district medical officers, received an order from the relieving officer to attend on Mrs. Brinckley, who was on the eve of confinement. He attended her for a period of six weeks, inflammation of the veins of the legs having supervened. The guardians refused to pay the bill on the ground that the order was not a midwifery one. Mr. H. E. Wilkes, for the guardians, urged that the claim was barred because it had not been paid within the six months in which it was incurred. Mr. Wilkes also contended that the guardians could not pay because this was not marked on the order as a midwifery case. His Honour said if the medical officer attended upon the order he got no pay and if he did not attend he came in for a censure from the press. This was one of the shabbiest defences he had ever heard. His Honour in giving his reserved judgment stated that the defendants were bound by the act of the relieving officer and that they could not evade payment of the fee on the ground that the order was not a midwifery one. "I do not think," continued the judge, "the plaintiff established his claim to the £2, as the case was not, in my opinion, one of the greatest difficulty or requiring long subsequent attendance." On the matter of dates he thought the plaintiff must fail. The Act 22 & 23 Vict. c. 49 and 51 says that claims must be paid within the half year in which the same have

been incurred or within three months afterwards. The half-year ended on Sept. 29th, therefore the plaintiff had up to Dec. 29th to get paid. But he never issued his summons until Dec. 24th at which date there was no court sitting until Jan. 21st so that he could not get paid by Dec. 29th. Judgment would therefore be for the defendants, but without costs. Leave, however, was given to appeal. It seems a very hard case. Dr. Wood was nonsuited because he did not enter a summons against the guardians until Dec. 24th. As Dec. 29th was the latest day by which he could get paid and no court sat until Jan. 21st he lost his action. But Dr. Wood had previously sent in two claims for his fee. The first was sent in within a month of March 2nd and the second within a fortnight from the first. Apparently then those who owe money have only to refuse payment upon a demand and persist in the refusal until the legal time for payment is up, after which the creditor may whistle for his money. We await the result of the appeal, if one is entered, with interest.

THE GARBAGE-MONGER.

AT the Guildhall, on Saturday, Feb. 11th, Joseph Philip Green, innkeeper, of Bottisham, Cambridgeshire, was summoned for sending four pieces of diseased meat to the Central Meat Market intending them for sale as human food. Dr. Sedgwick Saunders described the meat as being in an abominable condition. Inspector Sampson, of the Cambridgeshire police, who served the condemnation upon the defendant, said that Green told him that he had eaten some of the meat himself. The defendant said he thought the meat was fit for food. Evidence was given that the defendant had left Bottisham without leaving any address and his goods were removed in a wrong name to Greenwich. The alderman sentenced him to three months' hard labour. Anyone who sells or tries to sell diseased meat or putrid fruit or fish or anything of the sort should be made to post a notice of his conviction upon his place of business. The same punishment should be meted out to adulterators of foodstuffs, a species of fraud which will never be stopped by such shilly-shallying Bills as the one which may or may not be discussed by the House of Commons this session.

A NURSING HOMILY.

THE Hon. Sydney Holland, it is pleasant to note, takes his duties as chairman of the London Hospital very seriously and in "two lectures to the nurses" which have been issued in pamphlet form he does his best to impress upon them the qualities that go to make a "good nurse" as well as to point the ideals to which they should strive to attain. Naturally enough his remarks are strongly tinged with commendation of the system of training in vogue at the London Hospital and it is very evident that under his direction and that of the lady who has so long and ably served at the head of the nursing department no efforts are spared to make that training thorough and the life of the hospital nurse agreeable. In his homely advice—some of which seems almost too obvious to need enforcing—Mr. Holland gives many practical hints which his audience doubtless appreciated, whilst he inculcates the importance of sympathy and unselfishness as the keynote of the nursing vocation. The lectures constitute a "lay sermon" which, coming from the official head of the hospital, was, we may be sure, listened to with attention, and there is certainly this to be said for it that it abounds in sterling common sense and is free from any approach to sentimentalism. It places the nurses' calling in its rightful position and will doubtless in its present form be perused with interest as well as profit by those engaged in this pursuit who have not enjoyed the privilege of being trained in an institution presided over by a gentleman who so sympathetically and earnestly enters into their life and duties. The publication will save the necessity of the example set by Mr. Holland being followed by others who occupy similar positions, for few, we imagine, would be equally competent for the task. Besides, if this were to be regarded as an essential part of the chairman's *rôle* many would shrink from such an undertaking by the side of which matters of finance and management would seem quite trivial.

A DISINFECTED NEWSPAPER.

ENTERPRISE and ingenuity are not wanting nowadays amongst the proprietors of newspapers, but a departure recently taken by a "northern daily" is certainly novel if not of any practical good. Impressed by the scare caused by an outbreak of small-pox the proprietors of the newspaper referred to have arranged to have impregnated, so it is stated, each issue of the paper with a disinfectant. The publisher thinks that he has thus converted the daily issue of his paper "into an agency for the wide-spread distribution of disinfecting influences and for the provision to all the readers of the means of safeguarding the home and the person." In taking this view he is, as we need hardly tell our readers, mistaken, and it is a pity that such a notion should be disseminated amongst the 60,000 (for this is the stated circulation of the paper) readers. But we fancy the public know by this time that immunity from contagious disease is not to be secured in this way. Such a method would have very little, if any, effect upon the air, the quantity of disinfectant being necessarily very minute. The germs of disease, it cannot be too widely known, are not in the habit, so to speak, of rushing to their own destruction on a surface which is antiseptic. A tray of permanganate or of most of the other disinfectants probably possesses but little influence over the air and to disinfect air and render it permanently sterile drastic methods are required which are for all practical purposes impossible. We submitted a copy of the newspaper to a current of steam in a still and the distilled product evinced a not very marked smell of tar oils. The newspaper may have been made aseptic, but the action of the antiseptic used would extend to no real purpose any further than that. Indeed, there is no useful end gained at all by the course adopted except perhaps to call the attention of the public to the fact and we hope to make them smile at the idea of it being a "safeguard against small-pox."

DEATHS WITHOUT OBVIOUS CAUSES.

ACCORDING to statistics 3000 deaths occur yearly in which the cause of death is uncertified. It is not common, however, to meet with cases in which, in spite of the most careful post-mortem examination, no cause of death can be found. Two remarkable examples were brought before the notice of Mr. Samuel F. Langham, the City and Southwark coroner, quite recently. Two children, brother and sister, aged respectively four years and nineteen months, were the subjects. About the middle of last November the girl was taken suddenly ill and was conveyed to the Evelina Hospital. She was found to be extremely weak and anæmic. Death occurred shortly afterwards. The day following the girl's admission the boy was taken ill, having similar symptoms to those of the girl. He also was conveyed to the hospital but died within twenty-four hours of his sister. A post-mortem examination was made in each case, but no cause of death could be assigned. Portions of the viscera were sent to Dr. Stevenson, but the most elaborate and careful examination failed to show any traces of poisoning. In old days the verdict of "Death by

the visitation of God" would probably have been returned, but the jury in these cases returned a verdict that the deceased died at the Evelina Hospital but there was no evidence to show the cause of death in either case. It is well known that death may result from certain accidents, notably blows on the abdomen, without any internal injury being apparent, and the fatal result is supposed to be brought about by some reflex cardiac inhibition through the cœliac plexus. May it not be probable in such cases as we have just described that the cardiac inhibitory apparatus is the ultimate means which brings about the fatal termination? As far as we are aware the exact mode in which such deaths occur has not been worked out, but presumably the cause must be sought in the nervous system.

VENTILATION OF METROPOLITAN RAILWAY TUNNELS.

THAT the atmosphere in the tunnels of the railways of the metropolis is seriously vitiated and is injurious to health admits of no doubt. The state of things need not be described as the evil must be apparent to everyone who makes use of the underground system. From time to time a cry of indignation goes up from the public, but little or no notice is taken of it by the companies and the Board of Trade are powerless to move in the matter except to make suggestions which are never carried out. Is it not time therefore that Parliament should step in and promote a Bill to compel the companies to properly ventilate their tunnels in the interest of public health? We notice that Mr. Robert Cox, M.P., has issued in pamphlet form the memorandum which was submitted to the committee appointed by the Board of Trade, together with a verbatim reprint of the examination of the writer of the memorandum, Mr. James Keith, before the committee as given in their official report to the President of the Board of Trade dated Aug. 3rd, 1897, the whole pamphlet being a strong plea for the mechanical ventilation of the metropolitan railway tunnels. The observations which are made upon the committee's report are worthy of careful attention. If, as has been suggested, the panacea for the evil is to be electricity we may have to wait for another ten or twenty years before that agent as a motive power for heavy traffic can be satisfactorily adopted. Meanwhile, is the health of London to suffer in order that the companies may be saved expense?

HYSTERICAL ISCHURIA: VICARIOUS ELIMINATION OF UREA.

IN the *Progrès Médical* of Feb. 5th, 1898, Professor Guisy, of Athens, has recorded the following extraordinary case. A widow, aged thirty-nine years, had since the severe blow caused by the loss of her husband suffered from nervous attacks especially when worried. She trembled, had noises in the ears, severe headache, fell to the ground, and had hallucinations. One day the death of her eldest boy was announced; one of these attacks came on, after which she suffered from weakness of the legs and loss of sleep and appetite, and she wept continually. A few days afterwards she vomited several times a day and the quantity of urine passed became reduced to about a small teacupful every two or three days. On the eighth day of the suppression of urine a discharge of yellowish liquid with a urinous odour from the nose, eyes, ears and vagina began. When seen by Professor Guisy on the following day a disagreeable urinous odour was perceptible on approaching the patient, the eyes and nostrils were congested and swollen, and from them flowed continually a liquid looking like serum, a little cloudy, with an odour somewhat ammoniacal. From the ears the same liquid flowed but it was very pale. An analysis of the fluid showed 3·64 grammes of urea to the litre, some pus globules, and mucus. The patient continued to vomit; the fluid rejected also had a urinous odour and contained urea. There was neither diaphoresis nor diarrhœa. Hysterical symptoms — anæsthesia, paræsthesia, and pareses — were present. Gradual improvement took place. On the tenth day she vomited only four or five times, on the twelfth she commenced to micturate and passed 150 grammes of urine in twenty-four hours, and on the sixteenth 600 grammes. We consider that this case is in most of its features typical of a rare and little known condition—hysterical ischuria—and in one respect—the vicarious excretion of urea from the nose, ears, conjunctiva, and vagina—unique in medical literature. The question may occur to the reader, Was there not, as often happens in hysteria, deception on the part of the patient? The answer to this is that such an assumption is powerless to explain the most extraordinary feature of the case, for the vicarious urinary excretion was observed by Professor Guisy and the presence of urea demonstrated by chemical analysis. Moreover, as we have said, the case is in many respects typical, and it is not to be supposed that the patient had a scientific knowledge of her complaint. Indeed, the same doubt has been raised on the whole subject. In 1840 Laycock described oliguria and even total suppression of urine as a transient phenomenon. Charcot afterwards termed the condition hysterical ischuria, and vindicated its claim to a place in pathology, from which it had been discarded. Often for several days there is no secretion of urine and repeated vomiting occurs. The vomited matter may present, it is said, the appearance and give the odour of urine. Charcot pointed out that in experiments on animals vicarious elimination of urea from the intestine occurs. As far as we know in man the vicarious excretion of urea has never been proved in these hysterical cases by chemical analysis before, but in Bright's disease urea has been detected in the sweat. As to the explanation of the suppression of urine it is simply an example of functional disturbance which may be produced in any organ in hysteria. The peculiar manner of vicarious excretion will not appear so incredible when it is remembered that the normal functions of the organs which performed it are not more diverse from the renal function than are those of the intestine and skin, which can admittedly excrete urea. In the ears possibly the ceruminous glands were the agents of excretion. It is to be regretted that more detailed observations on this and other points are not given.

THE EYESIGHT OF SCHOOL-CHILDREN.

DURING the last few years the attention of the medical profession and of the public, who are equally interested, has been repeatedly directed to the defects of eyesight prevalent among school-children. This is true not only of our own country, but of America, France, Germany, and probably of most of the other European states. Private investigation as usual has led the way, as witness the efforts in this connexion made by Mr. Brudenell Carter, Mr. Simeon Snell, and others. According to M. Imbert and M. Truc, who have published a paper on the subject in the *Journal de Clinique et de Thérapeutique Infantiles* of Jan. 27th, 1898, the authorities of Montpellier are endeavouring to combat the evil by a process of systematic inspection of the children in the communal schools of that district. This clearly indicates an endeavour to do right. It is of course open to question how far a public authority is entitled to go in relieving the physical necessities of a population. Certainly not, we would say, to the extent of supplanting even by a little the exercise of parental responsibility. As surely, however, does the duty of advice

and injunction belong to it in respect of weaknesses, physical, or mental, which are revealed in the ordinary course of school training. In order to ensure the efficient discharge of this duty there need be no elaborate system of inspection. The existing machinery should suffice. A schoolmaster if observant can without much difficulty tell by a child's attitude in the class whether sight is or is not markedly defective. If supplied with a sheet of well-sized test-types he could quickly ascertain with approximate exactness the normal or abnormal character of his pupils' vision at a distance of twenty feet and could refer any cases of defect to parents to procure appropriate medical treatment. Such auxiliary means as the form and position of school-desks, the lighting of schoolrooms, and the type of class-books must be regulated, as they already are, by the common interest of all the scholars. The subject is as wide as it is important, but we are nevertheless of opinion that it is capable of treatment by means which are neither complex nor expensive.

"PURE" DIPHTHERIA.

AT a recent meeting of the Société Médicale des Hôpitaux Dr. Barbier communicated the results of his important and laborious researches on the clinical and bacteriological forms of diphtheria. He showed that cases of pure diphtheria due to infection with the bacillus only were clearly distinguishable from cases of modified diphtheria in which the additional infection of other microbes—streptococci, staphylococci, &c.—played a part. As a result he presented a clinical description of diphtheria much simpler and more definite than the existing one which confounds all forms. This pure diphtheria may be observed experimentally in animals in which the bacillus causes simple vaso-constriction and necrosis but never inflammation. But when diphtheria occurs in man it is usually in the modified form, for being but feebly contagious a pre-existing morbid condition of the affected surfaces is generally necessary to enable the disease to install itself. The diphtherias secondary to scarlet fever and measles are examples of this. In only 54 out of 221 cases examined bacteriologically was the diphtheria pure. Pure diphtheria is to be recognised clinically not by the appearance of the membrane but by the state of the throat especially; the mucous membrane is not inflamed but, on the contrary, rather pale, mucous or purulent secretion is absent, and adenopathy is absent or trifling. The temperature is but little elevated; it is at most a little over 100° or 101° F., and this only temporarily. The pulse is always small and rapid. There is little or no albuminuria. However benign may be the appearance of the throat the patients look ill and have a pale, leaden complexion, because they are under the influence of the diphtheria toxin. No matter what may be the extent of the membranes or the multiplicity of the localities attacked, recovery under the influence of antitoxin manifests itself on the day following injection and is completed in two or three days, rarely later. The prognosis is therefore very good. All Dr. Barbier's 54 cases, which included 13 laryngeal cases in which intubation had to be performed, recovered. There is only one danger in this form—extension of the disease to the bronchi, which may lead to suffocation. Dr. Barbier never observed paralysis in any of his cases—a remarkable fact. In modified diphtheria of the throat the mucous membrane is always red, sometimes it bleeds, and the tonsils are always swollen. The inflammation may be limited to the neighbourhood of the false membranes, confined to a part of the mucous membrane—for example, the uvula—or generalised. In the pharynx is seen muco-purulent matter, secreted there or coming from the nose or larynx. In almost all cases the lymphatic glands are enlarged. Though the appearance of the membranes is not characteristic, in most cases, and especially when there is staphylococcic infection, they are rather thick and extensive, and often the odour of the breath indicates decomposition which is caused by saprophytes. The nose is almost always attacked, and whether membrane exists or not there is a discharge, serous, purulent, or hæmorrhagic, containing numerous septic microbes. The temperature is higher than in the purer form—101·3° to 104°. Complications such as broncho-pneumonia, otitis and impetigo frequently occur, and in the worst cases septicæmia.

GONOCOCCI IN THE BLOOD.

DR. AHMAN has described in the *Archiv für Dermatologie und Syphilis* (vol. xxxix, part 3) a case in which gonococci existed in the blood. The patient, who suffered from urethral gonorrhœa complicated with multiple arthritis, tenosynovitis, epididymitis, and nephritis, was liable to feverish attacks, during one of which a Pravaz syringeful of blood was taken from a vein in the arm and this blood when spread over four ascites-fluid agar plates yielded pure cultures of the gonococcus. Dr. Ahman considers that this is the first instance in which general gonorrhœal infection of the system (blennorrhoische Allgemeininfection) has been directly proved, all previous attempts to cultivate gonococci from blood having failed, perhaps because an insufficient quantity of blood was employed.

THE MEDICAL SCHOOL OF CAMBRIDGE UNIVERSITY.

A CIRCULAR has been addressed by Dr. Clifford Allbutt, the Regius Professor of Physic in the University, to the resident graduates of Cambridge pointing out the remarkable development of the medical and scientific work of the University and the no less remarkable absence of all proper accommodation for carrying on that work. The very existence of the medical school, to quote Dr. Allbutt's forcible words, "is jeopardised by the want of due provision for the ordinary work, and this at a time when in Europe and America schools of medicine, equipped in a way scarcely dreamed of here, are adding persistently to their resources and not only turning out apt pupils but also forwarding the progress in pathology and therapeutics which is so remarkable a feature of the medicine of our own time. To provide the buildings required a sum of at least £20,000 will be needed." Dr. Allbutt's object in sending out his letter to resident members of the Senate is to make the needs of the medical school known, for he feels rightly that many whose official stipends or private means will not enable them to offer great pecuniary assistance will yet be able to extend to one of the most practical and most successful sides of Cambridge education some indirect and valuable aid. A meeting of Cambridge medical graduates will be held in London on March 2nd, when the Vice-Chancellor (Dr. Alexander Hill, Master of Downing College), the Right Honourable A. J. Balfour, and Professor R. C. Jebb (the representative of the University in Parliament), among others, have promised to attend in support of the attempt to raise money for the urgent needs of the medical school. The Regius Professor's letter concludes with two promising pieces of information. The first is that a site for the projected new buildings has been assigned to the authorities of the medical school "almost without discussion"; the second is that the Mercers' Company have already granted a generous donation and that there is good reason for believing that other City companies will follow suit. The following subscriptions towards the new schools are already announced: The Mercers' Company, £1050; Professor Clifford Allbutt, £250; Professor Bradbury, £100; Dr. W. A. Brailey, £20; Mr. F. Deighton, £21; Dr. J. Griffiths, £50; Sir Reginald Hanson, £100 (on condition that nine

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other non-medical graduates give the same sum); Mr. H. W. Hoffmann, £100; Lady Humphry, £300*; Mr. and Mrs. A. P. Humphry, £200*; Miss Humphry, £100*; Dr. L. Humphry, £100*; and Dr. Donald MacAlister, £50*. The last five donations, which are marked with an asterisk, are to be allocated to such part of the buildings as may be dedicated to the memory of the late Sir George Humphry, to whom the Medical School of Cambridge University owes an inextinguishable debt.

MR. T. HORLOCK BASTARD, who died on Feb. 12th at his country seat, Charlton Manor, near Blandford, Dorsetshire, at the great age of one hundred and one years, was a man of marked scientific attainments. He had also studied the scholastic systems of foreign countries, being an enthusiast in matters of education. Some years ago he provided a middle-class school in Blandford and he was a supporter of charitable and philanthropic institutions in the district. He retained all his mental faculties to the end of his very long life.

BEFORE the Indian Section of the Society of Arts at the Imperial Institute yesterday (Thursday) afternoon Mr. H. M. Birdwood, C.S.I., delivered an interesting address on the Plague in Bombay. The address was a practical and historical *résumé* of the events of this disastrous epidemic from its commencement to the publication of the report of General Gatacre's Committee,[1] and cannot fail to do good by informing the public of what has really taken place in India.

ON Tuesday next, Feb. 22nd, there will be an adjourned discussion at the meeting of the Royal Medical and Chirurgical Society upon Mr. Marmaduke Sheild's paper, "Immunity and Latency after Operations for Reputed Carcinoma of the Breast." Mr. Pearce Gould will continue this interesting debate.

THE first Hunterian Society Lecture for 1898 will be given by Mr. H. T. Butlin at the London Institution on Feb. 23rd, at 8.30 P.M. Mr. Butlin's subject is—"What operation can do for Cancer of the Tongue." Members of the profession are invited to attend.

MR. PEARSON ROBERT CRESSWELL, F.R.C.S. Edin., senior surgeon to the Merthyr General Hospital and Lieutenant-Colonel Commandant 3rd V.B. Welsh Regiment, has received from the Queen the Companionship of the Bath.

DR. LOUIS PARKES will deliver a lecture on Blots in our System of Sanitary Administration: Why Epidemics Occur, on Monday, Feb. 21st, at the Sanitary Institute, Parkes Museum, Margaret street, W.

THE Executive Committee of the General Medical Council is summoned to meet on Monday next at 1.30 P.M.; the Penal Cases Committee will meet at 4.30 P.M. of the same day.

H.R.H. THE DUKE OF YORK has graciously consented to be President of the National Society for the Employment of Epileptics.

[1] THE LANCET, Jan. 22nd, 1898, p. 250.

BATH EYE INFIRMARY.—The annual meeting of the Bath Eye Infirmary was held on Feb. 7th under the presidency of Mr. Alderman Bartrum. The income from all sources was about £600 and there was a favourable balance of £33. The medical report showed that 262 in-patients had been admitted as contrasted with 405 in 1896. The out-patients numbered 1808.

THE QUEEN'S VISIT TO NETLEY.

"My work shall answer since I knew the right and did it."—TENNYSON.

AMONG the many noble qualities which have ever characterised Her Majesty the Queen there is none which more endears her to the public than her sympathy with the afflicted and suffering. This has often been displayed in the case of her wounded soldiers on their return to their native land and was recently exemplified in her visit to the Royal Victoria Hospital, Netley, on Friday, the 11th inst., to see and encourage those who have lately been invalided from the North-west Frontier of India and from other parts of her dominions. The effect of this visit by the Queen to the sick and wounded cannot but be gratifying to the whole army and cheering to the sufferers, as showing the warm interest taken in them by Her Majesty and the members of the Royal family. The visit on the present occasion is all the more to be appreciated as it involved a great amount of exertion and personal fatigue on the part of the Queen.

Although Her Majesty desired the visit to be regarded as a private one, the inhabitants of the village near which the great hospital is situated were anxious to show their loyalty, and from an early hour in the morning sightseers poured into Netley from the surrounding districts. A rather foggy early morning was succeeded by brilliant sunshine, and though the wind was rather cold the weather was decidedly good for the time of year.

The Royal party travelled from East Cowes on the Royal yacht *Alberta*, commanded by Rear-Admiral Fullerton, A.D.C., and on arriving at the Clarence Pier at Portsmouth they were met by Admiral Sir Michael Culme-Seymour, Bart., G.C.B., Commander-in-Chief at Portsmouth, and escorted to a special train in readiness. A start was at once made and at 12.10 P.M. the train steamed into Netley Station. On alighting Her Majesty was received by General Davis, C.B., commanding the Southern District, and the following officers:—Colonel Creagh, Assistant-Adjutant-General, in command of the troops stationed at Netley; Brigadier-General the Hon. Henry Crichton, commanding the Hampshire Volunteers; Colonel Auld, A.A.G.; Major Williams, A.A.G.; Major Ward, Chief Constable of Hampshire; and Major Sumner, A.D.C. to General Davis. As the Queen took her seat in her carriage the band of the training ship *Mercury* played the National Anthem and Her Majesty gave them a pleasant smile. The Royal party drove to the Royal Victoria Hospital in open carriages amid hearty cheers and through roads lined by spectators. The route taken was *viâ* Station-road, along the shore and through the hospital grounds. A guard of honour consisting of three officers, one hundred rank and file and the Queen's colour, with the full band of the 2nd Battalion of the Shropshire Light Infantry, was drawn up in front of the hospital, while at the pier head the Royal standard was hoisted. As the Royal carriages approached the band played the National Anthem. Her Majesty, who was accompanied by Princess Beatrice and Princess Louis of Battenberg, and attended by Lady Lytton and the Hon. Mrs. Grant as her ladies-in-waiting, and by Sir Fleetwood Edwards, Colonel Sir H. Byng and Major the Hon. C. Legge as equerries, arrived at the north-west door of the building at twenty minutes past twelve o'clock. There special preparations had been made for Her Majesty to insure ease in alighting from her carriage. Under the directions of Captain C. R. Stevens, R.E., a platform covered with red cloth had been run out under the portico and was so arranged that its end could be fitted close up to the carriage at a moment's notice; both the platform and portico were tastefully decorated with shrubs and flowering plants. On arrival Her Majesty was received by General Davis, C.B., who immediately introduced Surgeon-Major-General Nash, M.D. Edin., the Principal Medical Officer at Netley, who in his turn presented the following members of his staff to Her Majesty: Surgeon-Colonel J. Lane Notter, M.D. Dub., Professor of Hygiene in the Army Medical School; Surgeon-Colonel W. F. Stevenson, M.B. Dub., Professor of Military Surgery in the Army Medical School; Brigade-Surgeon-Lieutenant-Colonel W. E. Webb, M.D. Aberd., in charge of the Medical Division of the Hospital; Surgeon-Lieutenant-Colonel W. L. Chester,

M.B Dub, in charge of the Army Lunatic Asylum at Netley; Surgeon-Major W. Dick, M.B. Edin, in charge of the Surgical Division of the Hospital; and Surgeon-Major M. Kelly, M.D. R.U.I., his staff officer. Her Majesty then entered her wheeled-chair at the entrance to the corridor of the hospital and, after Surgeon-Major-General Nash had presented Miss Helen Norman, the lady superintendent of nurses at Netley (who was wearing her decorations of the Royal Red Cross and Egyptian medals), was wheeled by her Indian attendant along the corridor as far as the lift. During this short journey she conversed with Surgeon-Major-General Nash, who had the pleasure of telling her that this was the second time he had been on duty at Netley during her visits, for thirty-four years before, when a candidate for Her Majesty's commission, he had had the honour of explaining the nature of the cases in the ward then under his charge. The Queen, Princess Beatrice, Princess Louis of Battenberg, Surgeon-Major-General Nash, and Captain Stevens, R.E., then entered the hydraulic lift, which was draped with Union Jacks and lighted by lamps, and on an order being given by the last-named officer were conveyed to the top floor of the hospital—the surgical division.

On arrival in the surgical section, the Principal Medical Officer inquired from Her Majesty whether she desired only to see the men from the North-west Frontier or all the patients in the division, to which Her Majesty returned the gracious answer that she wished to see as many of those in hospital as the appointed time for her visit would permit. The Queen's chair was then wheeled into each of the wards of the "A" division of the surgical side of the building by her Indian attendant, where she entered into conversation with very many of the men in her kindly, sympathetic manner, offering words of comfort especially to those of the patients who were confined to their beds. On the first occasion when Her Majesty desired to say a few words to a sufferer in bed she alighted from her chair and walked to the bedside to do so, but as it was found possible for the wheeled chair to be brought close alongside the beds such extra fatigue was subsequently spared to Her Majesty. In the wards the Queen was accompanied by the two Princesses and her ladies-in-waiting and occasionally by Sir Fleetwood Edwards, who from time to time reminded the Principal Medical Officer of the all too quickly passing hour. Her Majesty's suite and the rest of the staff remained in the corridors during the visits, following her as she went from ward to ward. Through the surgical wards Her Majesty was conducted by Surgeon-Major-General Nash and Surgeon-Major Dick, who duly explained the nature of the injuries. Her Majesty addressed Private Davis, of the Buffs, and asked if he was getting on well; he was wounded at Inayate Keil by a ball which shattered the right leg, and the limb had been removed below the knee in the field hospital by Surgeon-Major Tyrrell. Private Edwards, of the Royal West Kent Regiment, who was struck by a shot in the cheek on Sept 30th at Agra, the ball passing out at the neck, was asked by the Queen if he suffered much pain, and he replied in the negative. To Private Lever, of the Buffs, who had received a flesh wound of the right thigh at Dubbi, and to whom Princess Beatrice had spoken sympathetically on her previous visit, her Royal Highness said: "You seem to be a little better than when I was last here?" Lever was suffering from rheumatic pains and the Queen coming to his side asked in what engagement he had been wounded, and expressed her sorrow at hearing that he was still suffering. Among the other wounded men to whom the Queen offered sympathetic remarks were Private Meager of the West Kent, who had received a gunshot wound of the right leg by a ball fracturing the fibula, at the engagement of Agra; Private Brodford, of the Royal West Surrey, who was wounded in the left upper arm; Private Hefferman, of the Buffs, also suffering from a bullet-wound of the arm received at Dubbi on Sept. 16th; Private Clipsham, of the Royal West Kent, who had been shot through the spine and right kidney while with General Blood on Oct. 3rd at Badali; and Trooper Peters, of the 7th Hussars, who was wounded in Mashonaland on July 19th, when under the command of Captain Carew at Magoondoo Krall. In the last-named patient special interest was shown, Princess Beatrice reminding the Queen that the trooper belonged to the regiment in which Prince Alexander of Teck, is serving.

When the tour of the surgical division was accomplished it was found that only a quarter of an hour remained, but Her Majesty expressed a wish to see as much of the medical division as possible. Descending by the lift she was met in the medical section by Brigade-Surgeon-Lieutenant-Colonel W. E. Webb, M.D. Aberd., who with the Principal Medical Officer showed the Royal party round six or seven of the wards where the former briefly explained the nature of the cases. The Queen inquired from Surgeon-Major-General Nash at what temperature the wards were usually kept, and remarked that some of them appeared to her to be rather warm. Her Majesty evinced the greatest sympathy with the patients, and in the condition of Trooper Grey, of the 11th Hussars, who is suffering from paralysis, showed much interest. On hearing that Miss Norman, the lady-superintendent of nurses, took special interest in the case, Her Majesty desired that she should come forward. "Have you lost the use of your limbs?" asked the Queen. "Yes, your Majesty," replied the sufferer. "Tell me how it happened," said the Queen. "Through sunstroke whilst marching at Rawal Pindi, your Majesty," he answered. "I have been here two years," he added. Her Majesty, when turning to proceed, remarked, "I do hope you will soon get better." The face of each patient gladdened as his Sovereign addressed him. The feeling way in which the Queen spoke to the men was most touching and must have left an impression that will not be effaced from their memories while life lasts. From the wards which it was found impossible for the Queen to visit those of the patients who were deemed sufficiently convalescent were summoned, being drawn up in line along the corridor out of which the wards open and through which Her Majesty passed in her chair.

The inspection completed the Royal party descended by the lift to the ground floor of the hospital, where, in the lower corridor, Her Majesty was pleased to express to Surgeon-Major-General Nash how satisfied she was at all she had seen and at all the arrangements for the care of the sick and wounded. The Principal Medical Officer expressed his regret to Her Majesty that her visit had not taken place after the arrival of a larger number of men from the North-west Frontier, as some hundreds of men are likely to be admitted to the hospital during the next two months. Accompanied by Surgeon-Major-General Nash, Her Majesty then passed from the hospital, along the platform to her carriage, where he took leave of her. The Royal visit lasted rather more than an hour and during the time the band of the Shropshire Light Infantry played a selection of airs.

The scene outside the hospital was a brilliant one as the Queen passed to her carriage, for the sunbeams were shining and dancing on the Southampton Water, the band played the stately strains so deeply loved, while from the crowds of people in the grounds burst hearty cheers to greet their Sovereign after her gracious act of kindness. On either side of the platform along which the Queen passed were grouped the wives and children of the officers stationed at Netley with a few officers not on duty, the less privileged public being confined to the lawn outside the parallelogram of gravel in front of the hospital, where the men of the Northumberland Fusiliers, under Lieutenant W. H. Wild, kept order. Although Her Majesty appeared well for her years, it was apparent that the spectacle of the sick and wounded had considerably affected her and that the exertion of walking from her chair to the carriage was not unattended with much effort. To many were brought home most vividly her kindness and thoughtfulness in thus coming to express her sympathy with her suffering soldiers.

THE DRAINAGE OF BOMBAY AND BANDORA.

THE prevalence of plague at Bombay and in the neighbourhood of that town renders all proposals for dealing with the drainage of this locality more particularly welcome. As the plague spreads but too readily from one place to another such questions are not merely matters of local interest. The habits, however, of the native population render the adoption of a general system of drainage very difficult; and at Bombay there is a further obstacle due to the fact that in several districts it is impossible to obtain a sufficient fall to build self-cleansing sewers. It has consequently been necessary to resort

to artificial means. On the western side of the peninsula on which the town of Bombay is built is situated the outfall of the sewage system. This spot is called Love Grove, but there are large sections of the city from which direct gravitation to Love Grove is impossible. Further, these districts are far apart and therefore the sewage of one low-lying section cannot be lifted with that of another low-lying section, but each section must be dealt with separately. Yet to establish in every section a pumping station with a powerful steam-engine to raise the sewage is not very practicable. Suitable sites for these pumping stations would have to be obtained and such sewage pumps would scarcely be considered as ornamental to the town. In any case they would be very costly. The town authorities have therefore resorted to what is considered a cheaper system and which at all events does not present the same inconveniences. They are establishing at Love Grove air-compressing machinery which will supply the power to raise the sewage in the low-lying districts. It is proposed to treat each of these districts as a separate entity, though they are all to be supplied with mechanical force from the one central point. The necessity for the local lifting of sewage arises, as in the Old Racecourse section, from the fact that the ground is below the level of the main collecting sewer, which has its outlet at Love Grove; or because, as in the Mazagon district, there is some high level ground separating that district and the main sewer; or because, as in the Parel district, both these causes render communication by gravitation with the main sewer altogether impossible.

Some years ago air-compressing machinery was built for the Colaba district and it has worked so successfully that a central air-compressing station is now in course of construction at Love Grove and the power there generated will be employed first to raise the sewage of the Mazagon district. Subsequently the system will apparently be extended to the Parel, Old Racecourse, Malabar and Cumballa Hills, Elphinstone reclamation, Fergusson-road, and Chinchpokli districts or sections.

The Mazagon section is to the eastern side of the peninsula, overlooking the harbour, comprising the Kasara basin, several landing stages, &c. It has an area of 405 acres, a population of 21,000, and allowances have been made for a prospective increase of 12,500 more inhabitants. There are numerous cesspools in this district and some flat-bottomed masonry drains that discharge in the Kasara basin and other parts of the harbour. In a word, the drainage of the district is unsatisfactory and unscientific. Of course, flat-bottomed and masonry drains cannot be self-cleansing. Two pneumatic ejectors, to raise the sewage so that it may drain off to the other side of the peninsula and fall into the sea at Love Grove instead of, as at present, into the harbour, will be placed near the Roman Catholic cathedral. These ejectors will have a capacity of 1200 gallons each. Two more ejectors of a capacity of 250 gallons each will be placed in the Port Trust Property near Tank Bandar. The sewage of the Mazagon district will not have to travel far to reach either one or the other of these two ejector stations, therefore a sufficient fall can be given to the sewers to ensure that they shall be self-cleansing. Pipe sewers will be laid, the minimum but general size being nine inches in diameter. The flow is calculated at 6 cubic feet of sewage per head per diem, one-half flowing in eight hours, which is equal for that time to 9 cubic feet per head. Adding 10 per cent. for flushing purposes this would give 1434 gallons per minute. The gradients of most of the 9-in. sewers will be equal to 1 in 154 or more, giving a velocity when half full of 3 ft. 6 in. per second, and of 3 ft. 2 in. when only a quarter full. No gradient is less than 1 in 200, but this only occurs in a very few instances, and it gives a flow of 3 ft. when half full and of 2 ft. 10 in. when a quarter full. To ensure a sufficient supply of water to the sewers there will be 14 flush-tanks and to prevent any stoppage a manhole will be built wherever there is a deviation from the straight line. In no case will there be a distance of more than 200 ft. between any two manholes. The exhaust air from the ejectors will be utilised to induce a current that will serve to ventilate the sewers. The pneumatic ejectors, constructed according to the Shone system, will lift the sewage through a dynamical head equivalent to a vertical height of 47 83 ft. and 43 ft. for the smaller ejectors. From the pneumatic ejectors the sewage will be propelled in sealed iron mains of 16 in. and 8 in. diameter to existing sewers in the Frere-road and the Victoria-road, whence it can flow by gravitation to the outfall at Love Grove. These ejectors, as is well known, are placed underground at the lowest point in the sewage system. They occupy very little room and no more interfere with the traffic or general appearance of a town than, for instance, similar ejectors used for raising the sewage of the Houses of Parliament and which are placed between Westminster Bridge and the Clock Tower. Such is in its broad lines the scheme of drainage proposed and partially adopted for Bombay. Its chief defect rests in the fact that it is only partially applied and is not to be extended at once to all the districts which at present are so imperfectly drained. Of course, it is easy to understand that the town authorities should desire to proceed prudently step by step. But as they have already had a lengthy experience of the system in the Colaba district, as it has also been applied in many English, American and continental towns, and as the opinion of technical authoritirs in Bombay seems to be generally in its favour, there is no very good reason to justify further hesitation. On the other hand, the recurrence of plague renders it very urgent that a proper system of drainage should at once be introduced in, not one, but in all the districts that need such reform.

Though the municipality of Bombay, considering the present distressful conditions, may perhaps be acting somewhat too slowly and prudently, the neighbouring municipality of Bandora is much further behind the times. We have received a report on the sanitation of Bandora prepared by Mr. John Wallace, C.E., giving advice which he describes as "very far from perfection," but which he hopes will in time be improved as people are better educated on such subjects. Mr. Wallace argues that in India a system of sanitation must not be based on an absolute standard taken from text books, but on the present habits of the people. As, however, these habits have endured not for hundreds but for thousands of years if good sanitation must wait till they are altered it is to be feared that any radical improvement is still far out of sight. Mr. Wallace says: "It is quite useless for any governing body to adopt any system of control which they know perfectly well they cannot carry out or a standard of cleanliness and order that they cannot possibly maintain." Undoubtedly perfection will only be attained when an intelligent and enlightened public thoroughly seconds the efforts of the authorities; but how is such intelligence to be developed? The mistake is not in attempting to install a perfect system, but rather in expecting such a system to fully succeed, while the people it is intended to benefit have not yet learned to appreciate its merits. On the other hand, object lessons are by far the most effective method of education, and in England the mass of the people only realised the superiority of sewers over cesspools after sewers had been built. The prosperity of Bandora and its revenues depend on its reputation for salubrity and we are told that the engineering difficulties to be overcome are but slight. Why, then, should half or, indeed, only quarter measures be proposed? We are further informed that there is daily a fluctuation of barometric pressure equal to three-tenths of an inch and that on such occasions a process of breathing goes on in the ground by which air enters and issues from the earth mixed with the gases of decomposition. As the ground at Bandora has a temperature of 80° and as a temperature above 45° facilitates the decomposition of organic matter the importance of preventing contamination of the subsoil becomes obvious.

Mr. Wallace first urges that the water-supply of Bandora should be largely increased, then the main drainage channels ought to be completed. After that proper street gutters should be provided and their contents conveyed to the sea by occasional washing with salt water. So that solid refuse should not be thrown into the gutters depôts or dustbins should be provided. As this work progresses the cesspit should be dug out and filled in with good earth. The 19,000 inhabitants of Bandora produce each an average of 0·24 lb. of solid excreta and 1·51 lb. of liquid. To this Mr. Wallace adds a quarter of a pound of water for ablution and thus estimates the daily total in round figures at 2 lb. each person or 17 tons for the entire population. The solid portion of the night-soil is removed by eighty-nine male and female scavengers, who carry 110 loads daily in old kerosine tins, disposing of the contents along the seashore. As the load weighs about 25 lb. this represents the removal daily of about 2750 lb. of night-soil. But the total solid excreta produced daily amounts to 4560 lb. Mr. Wallace does not propose to do away with this system, but only seeks to render

it more efficacious by better discipline and by the employment of soil-carts and improved hand-pails. The solid excreta collected by the scavengers and the contents of the cesspits removed by bullocks in tank carts ought, it is suggested, to be discharged into the tidal current of the creek running to Mahim, and here a pipe should be laid for a distance of 1500 feet to convey the sewage to the tidal current where it would be diluted at a safer distance. But at least some of the sewage could be carted to the neighbouring cultivated land and there converted into market produce as is actually done at Madras. This would be an economy for the cultivators who are now obliged to purchase fish manure. To teach the cultivators the value of town sewage it is proposed that the municipality should establish a model farm near the town.

Mr. Wallace further explains that there are 281 sullage pits within the municipal area of Bandora which receive urine, household water, and solutions of nightsoil. These are emptied at intervals of from one to three days, but as most of them are not watertight a portion of their contents escapes into and befouls the surrounding subsoil. Then only twenty-six loads of this sullage water are removed per day, making a total of 4000 gallons which are discharged into the sea at three different places. Reckoning the average consumption of water four and a half gallons per day, of which four gallons become sullage water, this gives a total of 507 loads of 150 gallons. Of this only 26 loads are removed and 481 loads remain in the town. The foul water that thus remains within the town is not thrown into the sullage pits but out into the streets or lanes where it sinks into the soil. These figures surely denote the utter inefficacy of a system which depends upon carts and manual labour. Were it possible to render such a system effective the army of scavengers that would have to be employed would probably cost as much as a proper system of drainage by sewers, not to mention the daily crowding of the streets with carts and pails containing offensive matter. It is to be regretted that Mr. Wallace has not taken the bull by the horns and proposed bolder and more radical measures.

GLOUCESTER AND SMALL-POX.

IN 1887, a few months after the Royal Commission on Vaccination was appointed, the *Vaccination Inquirer* wrote that "Halifax, which has so strangely lagged behind, is about to come into line with Keighley, Dewsbury, Bradford, Leicester, Oldham, Gloucester, Falmouth, and other towns where vaccination has been left optional." Eight towns are named here. Before the Royal Commission had concluded its sittings necessity had arisen to obtain special reports regarding outbreaks of small-pox in no less than six of these eight towns. The worst outbreak was in Gloucester.

Dr. Coupland's report on Gloucester forms a blue book of over 180 foolscap pages, illustrated by eight plates and fifteen spot-maps, and containing numerous statistical tables. It records the most serious local epidemic of small-pox which has occurred in this country within recent years. To the student of epidemiology the outbreak is of great interest in many respects. It occurred in a town which had attained to a higher degree of neglect of vaccination than even Leicester had reached; a town which had by written representation and by oral testimony declared to the Royal Commission on Vaccination that the absence from it of small-pox was due to the attention paid by it to sanitation; a town the freedom of which alike from vaccination and small-pox had been brought under the notice successively of a Liberal Home Secretary and a Conservative Lord of the Treasury in a letter published by one of the most reputable opponents of vaccination, the librarian of the National Liberal Club. The epidemic is interesting alike in its slow beginning, its sudden and extensive spread, and its even more sudden and complete decline. And it is no less interesting as affording an example of a strenuous endeavour on the part of a community to combat small-pox by those measures which have come to be associated with the name of Leicester and which have for years been advertised and belauded by anti-vaccinationists all over the country not merely as constituting a successful method of dealing with small-pox outbreaks, but as being the only successful method. To those who pay attention to what may be called the psychology of anti-vaccination the epidemic is of further interest in the scope it has afforded for the play of fancy and neglect of fact and disregard of consistency on the part of prominent opponents of vaccination, native or imported.

The practice of infantile vaccination had been rapidly diminishing in Gloucester for a decade previous to the epidemic. During the ten years 1885-94, a summation of the annual official returns of the Gloucester Union shows that of 14,867 children born alive only 3155 had been registered as successfully vaccinated, that of these 3155 vaccinations more than two-thirds belonged to the first two years of the decade, and that during its last six years the registrations had shown in a total of 9047 births only 300 vaccinations, and that in the last year, 1894, the births had been 1492 and the vaccinations 34. Prosecutions had been abandoned from February, 1887, and the place had become a very paradise of anti-vaccination. The motion to cease prosecutions was submitted at a meeting of the board of guardians by Mr. J. B. Karn, who said that though not himself an anti-vaccinator, no mischief had been proved to proceed from a policy of *laisser faire*. Mr. A. Rice supported him and pinned his faith on sanitation. Mr. H. Drinkwater, on the other side, declared that, be a community ever so healthy and sanitation ever so perfect, small-pox would spread if vaccination were neglected. To Montreal, he urged, where vaccination had not been attended to, small-pox had come in 1885 and in consequence trade had been destroyed and the city deserted, and in the end vaccination had been largely resorted to. Notwithstanding this warning, which reads now almost like a prophecy, the motion was carried by 12 votes to 10 in a meeting of 32. Referring to the abandonment of vaccination the London *Evening Standard* wrote in August of the same year that Gloucester was likely to become "a place destined when an outbreak of small-pox takes place to suffer a terrible calamity." This was quoted by the *Vaccination Inquirer* with the lofty remark that "Rubbish like the foregoing is common." It was in the same issue that the *Inquirer* congratulated itself on Halifax coming into anti-vaccination line with the other seven towns which have now become the subject of so many small-pox reports by Dr. Coupland.

For a decade previous to 1887 there had been little small-pox in Gloucester, and this happy condition of things continued after vaccination fell into disuse, so that near the end of 1891 the board of guardians and the local anti-vaccinators alike thought it only proper to acquaint the Royal Commission with the facts regarding the abandonment of the teaching of the Berkeley physician whose statue adorns the Gloucester Cathedral. Accordingly the guardians prepared a report, in the course of which they declared: "Small-pox, in common with all zymotic diseases, arises from uncleanness, personal, municipal, or both; impurities in the air we breathe, in the water we drink, or the food we eat. The removal of the wrong conditions of life, the cultivation to the utmost of health as the true antidote of disease; these principles influence our town council, medical and sanitary officers, and the low death-rate of the city proves that they are sufficient—the death-rate comparing favourably with any other town in the kingdom in spite of its low-lying position upon the lower lias clay of the Severn valley. The death-rate in 1886 was 14·3, in 1887 13·2, and in 1888 14·4 per 1000 inhabitants." Concerning this report of the Gloucester guardians the *Vaccination Inquirer* could hardly contain itself. "Gloucester has done splendidly," it gleefully declared. "Supported, as we understand it is to be, by careful evidence on the facts, such a document cannot fail to be of the greatest service and we beg to tender our thanks to the citizens of the fine old city," and so forth. Alack a day! little did the *Inquirer* know what was before it, and how, in a desperate endeavour "to save (anti) vaccination from reproach" it would be forced to turn round on the "fine old city" and denounce it as a hotbed of filth and nastiness.

The secretary to the local Anti-Vaccination Society, Mr. George Newman, gave evidence before the Royal Commission. He urged that Gloucester was a very sanitary place. Under cross-examination and in reply to specific questions he said there had been no fresh drainage of late years and that the water-supply had been defective. Notwithstanding he had no hesitation in answering "Yes" to the question as to whether there had been any sanitary activity in the town. "Gloucester is a very clean town," he declared. In reply to

the question, "And have sanitary matters been attended to much more of late years?" he put aside any such limitation of time and answered, "I think we have always been well abreast of sanitary improvements." He evidently considered that the condition of Gloucester water and drainage had no bearing on small-pox.

What he had to complain of, however, was the hospital. "Q. 18,234. Have you got any system in Gloucester like the Leicester system, and so forth? A. No, I do not think so. Our hospital is nothing like so good as the Leicester one.—Q. How many beds have you got in your hospital? A. I really do not know.—Q. Is it in the town or outside? A. It is outside the town; it is a one-storey building and I should think they have perhaps got a dozen beds.—Q. What is the population of Gloucester? A. 40,000.—Q. That is not a very large provision for infectious diseases? A. No, they are thinking of building another, because they said if there had been any other disease running it would have been rather too crowded." By and by we shall see that this question of the hospital bulks very largely in anti-vaccination apologetics for the Gloucester small-pox disaster. In the issue of the *Inquirer* for October, 1897, the above evidence is quoted, and is prefixed by the statement, "Mr. Newman, of Gloucester, shows how at the date of his evidence, in 1891, before Gloucester passed through her time of trial, the hospital accommodation was known to be entirely inadequate for coping with any serious outbreak of disease." But the *Inquirer* very well knows that between 1891 and the onset of the epidemic the hospital accommodation was increased threefold or fourfold. Instead of "perhaps a dozen beds" it had forty-eight beds, and instead of these being devoted to "any other disease" they were confined to small-pox alone. Yet the *Inquirer*, with a perverted ingenuity which changes white into black and truth into falsehood, tells its readers that "before Gloucester passed through her time of trial the hospital accommodation was known to be entirely inadequate," while as a matter of fact the amount of accommodation when the epidemic began was very considerably beyond the standard usually aimed at for all infectious diseases by any community. Excepting that the *Inquirer* had no convenient peg on which to hang the sophistry it might as well have gone back to a time when Gloucester had no hospital and have declared that "before Gloucester passed through her time of trial hospital accommodation was known to be entirely wanting." The Royal Commission on Vaccination in its report gives great consideration to the case of "honest anti-vaccinators." Is the *Inquirer* their mouthpiece?

Mr. Newman was also asked whether he thought the suppression of small-pox or the suppression of vaccination the more important, and this elicited his views on pathology. "I believe that you cannot have small-pox, if you ask my personal belief (and I should not think of giving it unasked), unless persons have the small-pox in them, and then that being so it is far better for it to come out, and being out it is practically got rid of." Being asked, "How long do you think it would be in before it comes out?" he explained: "I should not say it was small-pox. If he has impure matter in him, dirt of any sort, it may come out in small-pox if small-pox is about. Perhaps he may have typhoid fever if that was about. It is far better to have small-pox to be thrown on the external skin than to have it thrown on the more delicate internal skin ....."

The other Gloucester witness was Mr. Rice, who had in 1887 told the guardians of his faith in sanitation, and who in 1891 told the Royal Commission that Gloucester would not receive a suggestion of compulsory re-vaccination, and that he believed a great many working men "would suffer imprisonment, fine, or anything else, rather than that they would consent to it." Yet without fine or imprisonment Gloucester by the end of 1896 had become the best re-vaccinated town in Her Majesty's dominions.

(To be continued.)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 10th, the President, Sir WILLIAM MACCORMAC, Bart., being in the chair.

The SECRETARY reported the death of Mr. Edward Lund, past Member of the Council and of the Court of Examiners. A resolution was passed that "the Council do hereby express their deep regret at the death of their former colleague Mr. Edward Lund and their sincere sympathy with the members of his family in the loss which they have sustained. The Council do also record their appreciation of the services rendered by Mr. Lund to the College as a member of the Council and of the Court of Examiners and their remembrance of the kindly nature which won for him the goodwill and esteem of all who knew him."

The Council did not confirm the resolution adopted by them on Dec. 9th, 1897, in reply to the third resolution carried at the annual meeting of Fellows and Members, but adopted the following in lieu thereof: "That the mover and seconder of the third resolution carried at the annual meeting of Fellows and Members be informed that on June 10th, 1897, the Council passed a resolution to the effect that they are willing to consider any evidence which may be submitted to them respecting canvassing for patients, either directly or indirectly, by any individual Fellow or Member of the College, with a view to determining whether or not such Fellow or Member has been guilty of a breach of the by-law. To this resolution the Council adhere, but in the opinion of the Council so long as so many different and dissimilar institutions are included under the denomination of medical aid associations, many of them, such as the friendly societies, being legalised institutions, the Council cannot make any general pronouncement respecting the connexion of medical men with these associations."

In reply to a communication received from a Member of the College respecting a provident association in a provincial town the Council decided to state, in reference to the two questions submitted to them, that they are of opinion: (1) that if well-to-do members of a provident association avail themselves of the services of the medical officers of that association without adequately remunerating them such conduct is reprehensible; and (2) that the Council have no control over the management of such associations and they consider that the proper way to deal with such an abuse is to submit the facts to the managing officials.

The PRESIDENT reported that he had attended on Dec. 13th the opening ceremony of the Mason University College, Birmingham.

The PRESIDENT also reported that he and Mr. Howse, in pursuance of the resolution of the Council of Dec. 9th last, had attended as the representatives of the College the conference held at the University of London on Dec. 14th, in reference to what steps should be taken in relation to the proposed legislation for the University, and that they had also on Jan. 24th taken part in a deputation to the Lord President of the Council for the purpose of urging his lordship to reintroduce in the coming session of Parliament the London University Commission Bill of last session.

A letter was read from the committee of delegates of the metropolitan medical schools asking the College to join a deputation to the metropolitan Members of Parliament to ask their support in carrying the promised London University Commission Bill. It was resolved that:

"The College, in conjunction with the Royal College of Physicians, is willing to join the deputation provided that it is not proposed by the deputation to urge amendments."

A letter was read offering to the College a framed copy in oils of the portrait of Sir Erasmus Wilson which was painted by Mr. Stephen Pearce and exhibited at the Royal Academy in 1872. The offer was accepted with thanks.

The PRESIDENT called the attention of the Council to the proposed legislation in Italy enacting that qualified medical men of other countries shall not in future be allowed to practise in Italy without holding the degree of an Italian university. The consideration of this subject was postponed.

The Senior VICE-PRESIDENT reported that the PRESIDENT had consented to deliver the next Hunterian Oration and accordingly declared Sir William MacCormac, Bart., to be appointed Hunterian Orator for 1899.

Mr. T. PICKERING PICK was appointed Bradshaw Lecturer for 1898

The SECRETARY suggested that he should be authorised to remove from the list of Members published in the College Calendar the names of all Members admitted before the year 1835 whom he might be unable to trace as still living. No resolution on the matter was passed.

Mr. TWEEDY moved that Clause 4 of Section XXIII. of the regulations of the Council relating to meetings of Fellows be altered to the following: "4 A meeting shall be held in

each year on the first Thursday in July after the annual election to the Council on that day." The resolution was carried.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE tenth meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Feb. 14th. All the Commissioners were present, but Mr. Cripps, Q.C., left about half-an-hour after the commencement of the sitting. Mr. G. L. Gomme, statistical officer to the London County Council, was examined by the CHAIRMAN. His evidence occupied the whole of the sitting. Counsel representing the water companies very frequently assisted the witness by reading sections from Acts of Parliament relating to matters under consideration, which dealt chiefly with the purchase of the undertakings of various provincial water companies by municipal authorities. Before the examination was commenced Mr. RICKARDS, counsel for the Chelsea Company, rose to explain that he accepted as correct the figures which had been sent in by the company in their Parliamentary return and on the accuracy of which he had thrown doubt at the last meeting of the Commissioners.

Mr. GOMME was first examined with regard to the purchase of the two companies which formerly supplied Glasgow with water. These undertakings were bought in 1855. At that time it was admitted that the supply of water was inadequate both in quantity and quality and the corporation of Glasgow had already determined that they would get a new supply from Loch Katrine.

Mr. POPE, Q.C., pointed out that at the time of purchase the water-supply of the companies was obtained from the River Clyde, which was notoriously impure. Under the superintendence of Mr. Bateman, the engineer, the water was conducted from Loch Katrine and the work was carried out in about ten years; the new supply was commenced in the year 1865.

The CHAIRMAN suggested that as the corporation had decided to get the new supply from pure sources the money spent in purchasing the undertakings of the companies really amounted to a dead loss of the amount paid.

With regard to the expenses of the water supplied to the consumers it was said that the water rent paid was gradually reduced during the four years preceding 1890. In the case of Glasgow, however, there is a "rate in aid" of the water-supply and the financial aspect of the case cannot therefore be judged entirely from a study of the figures of the amounts paid in water rents. The "rate in aid" is given partly for the water used for street watering and for the supply of the municipal buildings. The water-supply from Loch Katrine is not all used by the city of Glasgow.

Mr. POPE pointed out that the city is surrounded by a number of police boroughs and that these are supplied with water by an arrangement made with the municipal authorities of Glasgow. With regard to the supply of these outlying authorities the Act of Parliament under which the Glasgow water-supply was carried out provided that the municipal authorities of the city should not be compelled to supply the parts around, but that if they did so the maximum amount which they were allowed to charge should be limited. The water from the Clyde is still used for trade purposes.

In the case of Birmingham the water undertakings were purchased in the year 1875. A full account of the transaction is given in the appendix to Sir William Harcourt's report on the London water-supply. With regard to the amount charged at Birmingham Mr. GOMME admitted that the amount paid by the inhabitants of Birmingham for water rents in the case of houses under £30 a year was greater than in London. The water is supplied by the Birmingham municipal authorities to four outlying urban and five rural districts and the charges are the same as those made in the city.

The purchase of the water undertakings at Sheffield was quoted by Mr. POPE as the leading example of compulsory sale on the part of a water company which was not a defaulting one. The purchase was made in the year 1887. In the case of Sheffield a large amount of money was expended on the repair of the reservoir which had burst and to pay for this misfortune it was found necessary to raise the charges to the extent of 25 per cent. for some years.

The next case brought under the consideration of the Commissioners was that of the Stockton and Middlesborough Company, and with regard to the conditions of purchase Mr. BAGGALLAY, Q.C., Mr. POPE, Q.C. and other counsel came to the aid of the witness to supply details with which he appeared to be unacquainted. After the purchase of the water company's undertakings a Water Trust was formed to make arrangements with regard to the supply of the districts around. The water was taken from the River Tees and, as Mr. Balfour Browne pointed out, it has since been necessary to obtain an entirely new supply from the Lune and Balder. This was done at a cost of nearly £1,000,000. The water of the Tees is now used for trade purposes.

In answer to questions by Major-General SCOTT it was stated that the trade supply of Middlesborough amounted to something like 77 per cent. of the total amount, whereas in London it was only about 25 per cent. of the amount supplied.

Mr. GOMME, in answer to the CHAIRMAN, said that as a matter of fact he did not think that the water-supply in the cases which had been considered could well be compared with the case of London. With regard to the cost of administration he pointed out that at Birmingham the pipes belonging to the corporation go under the pavement as far as the house of the consumer and this is not the case in London. The witness complained also that in the case of London the water companies paid too much in dividends.

A table was put in showing the dividends paid from 1851–1871, from which it appeared that most companies had paid increasing dividends. Several tables were put in and some were rejected, the CHAIRMAN remarking that the Commissioners did not wish to have tables for the mere pleasure of looking at them if they did not teach anything.

Mr. GOMME thought that the figures proved either that the expenses of the West Middlesex Company had been unduly starved until they paid their full dividends or that when they had arrived at such a state of prosperity as to pay their full dividends they had spent money too freely.

The meeting was adjourned until the following day.

The eleventh meeting of the Royal Commissioners was held on Tuesday, Feb. 15th. With the exception of Mr. Cripps, Q.C., all the Commissioners were present. Sir George Bruce left soon after the commencement of the sitting.

The examination of Mr. GOMME was continued and the witness put in a large number of tables dealing chiefly with the financial aspect of the metropolitan water companies. The first table, however, had reference to various provincial water-supplies and gave in tabular form statistics of the water undertakings of the county boroughs in England and Wales in which the works are in the hands of the corporation. In Southampton, Hastings, and Worcester the whole of the expenses of the water-supply are paid for directly from the rates.

The witness was asked whether it would be possible to frame regulations by which a water authority could regulate the companies' undertakings with regard to engineering problems. This question arose out of the suggestion that in the case of some companies these arrangements were not kept in a proper state of efficiency. The witness suggested that an engineer might frame rules which could be carried out by a control authority. Some details were given with reference to the water paid for by the County Council for trade purposes, including that supplied to the places called by the witness the "Council's parks." Mr. Gomme suggested that if a system of control were adopted the capital of the various undertakings should be reduced to the actual money value of the works which are at present in use. This suggestion the CHAIRMAN characterised as "very drastic control."

Mr. DE BOCK PORTER inquired whether the witness did not mean rather that the capital should be written down after a valuation of the plant and that this writing down was a thing usually done in commercial undertakings in all cases in which the plant was liable to depreciation.

In answer to Major-General SCOTT witness said that expert evidence as to the value of the plant would be required; and in answer to further questions he said that the things which he considered obsolete were disused works and engines. Before the year 1852 disused pipes and even coal were put down to capital account, but since the appointment of the official auditor the accounts had been under control and in

one case, that of the Grand Junction Company, a considerable amount which the company wished to place to the capital account was disallowed. In the case of a disused station Major-General SCOTT suggested that it would not necessarily be without value, as, for example, the Battersea station, which belonged to the Southwark and Vauxhall Company. The witness said that alteration in the authorised capital of the companies could only be made by Act of Parliament.

Major-General SCOTT pointed out that in a revaluation of a company's plant certain difficulties would arise; for example, how often would it be necessary to make the valuation and would it be necessary in the case of substitution of new machinery for old? He pointed out the difficulty which would arise in case Parliament should be appealed to every year on such a matter. A map was put in showing the price charged in water rents in various parts of the metropolitan area. From this it appeared that the eastern and southern districts were highly rated.

The CHAIRMAN suggested that it was said that the price of water in the City equalled that of beer and the City Remembrancer said that they did not wish it raised to the price of wine. With regard to water rents the Chairman said he could not understand the prejudice which seemed to exist against paying for water by meter.

Some information was given with regard to the supply of water from wells. The Government well in St. James's, Westminster, supplies some houses in St. Martin's-in-the-Fields and in the parish of St. Margaret and St. John as well as the Government Offices. There were altogether about 340 private supplies on the north and 135 on the south of the Thames. In this computation the railway offices were not included. With regard to the amount of water used the witness was asked whether in his opinion more water would be used at a given house situated in the west-end of London or in a house in a poor district supposing that in the two cases the number of inhabitants was the same. In reply the witness said that in his opinion more water would be used in the poorer house because he thought they might do their washing at home.

The next meeting of the Commissioners will take place on Monday, Feb. 21st, in Committee Room A, the Moses Room, in which all the previous meetings have taken place, being no longer available.

THE BATTLE OF THE CLUBS.[1]

GATESHEAD.

AS will be seen from the letter which we publish below, the town of Gateshead has set an example which it would be well for every other town and city in the kingdom to follow. If the medical profession were as well organised everywhere as it is in Gateshead we should hear little more of club abuses. Even an association like the Gateshead one cannot make sure, however, that a non-unionist may not descend upon the town, but probably if he did he would not make very much out of it. We can only express a hope that the practitioners of "canny Newcassel," as the great James Pigg used to call it, will follow suit and unite with their Gateshead brethren.

To the Editors of THE LANCET.

SIRS,—The various evils under which the profession groans have elicited many more or less useful suggestions for their cure. Perhaps the record of what we have done here may interest some of your readers and may seem worthy of imitation. During the election of Representatives on the General Medical Council in 1896 the practitioners of Gateshead were called together to discuss the advisability of some united action. We met twice at the house of one of our senior practitioners, Mr. Ridley. At the close of our second meeting, at which we had a very representative gathering, it was suggested that a permanent association should be formed for medico-ethical purposes. The proposal was taken up with an enthusiasm which proved its worth in a very practical manner. In less than a month every practitioner in the place gave in his adhesion to the association. When we consider that the association is not a mere debating society for the delivery of academic views on things in general but a real working organisation, it will be admitted that this result is creditable to the practitioners of a town of over 100,000 inhabitants. I have not heard of any other town of the same size where *all* the practitioners are banded together for ethical and defensive purposes.

Our rules are few but strict, imposing exclusion from the association and professional ostracism on any member deliberately breaking any engagement entered into by the association as a body. Our officials are also few, consisting of a president, who is only eligible for one year, an honorary secretary who is also treasurer, and another elected member, who with the above forms the executive. We meet once in two months but may have, and have had, a special meeting at any time to consider matters of special importance.

The association though young has already proved valuable in many instances. We met the delegates of the friendly societies and showed them that their present rate of payment—3s. per annum per member—is neither fair to us nor honourable to them. We resolved, and every member signed a document to this effect, that we will make no new engagement with any friendly society at less than 4s., and already several lodges are paying that figure. We have resolved to attend no juvenile lodge at less than adult rate and that we will have no dealings with female lodges. So far our members have stood loyally together, and by all one can see the first defaulter will have an exceedingly unpleasant time of it. Not the least of our association's advantages is that we are getting to know one another better and a distinctly friendly feeling is growing up between men who a year or so ago contented themselves with the merest acknowledgment on meeting and not always that.

On Jan. 12th, 1898, under the chairmanship of our president, Dr. Newcombe, we had our first annual dinner and every member (with a very few unavoidable exceptions) was present. We had few toasts but plenty of music, and a most enjoyable evening was spent. So enjoyable and successful was the gathering that it was generally felt that we should publish the fact in the hope that the idea may be followed by practitioners in other towns. At the establishment of this association we received valuable information from the Manchester Medical Guild, the Portsmouth Medical Union, and the Newbury and District Medical Society as a result of an appeal through the medical journals. As an established and so far successful body we desire to render thanks to our friendly advisers.

We do not wish to give the impression that we in Gateshead have reached the millennium. Far from that. Being practically a part of the neighbouring city of Newcastle-on-Tyne, where there is no ethical organisation, we are constantly threatened with opposition from that quarter. There are many other difficulties in the way common to all towns. Our association, however, has had such a good effect in promoting friendliness and *esprit de corps* that we fully believe that in the formation of such localised societies lies the secret of effective resistance to unfair demands on the profession. Any information regarding our association will be gladly given by,

Yours faithfully,

ALFRED COX, M.B. Durh.,
Hon. Sec., Gateshead Medical Association.

Cotfield House, Gateshead.

[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1s.

THE MANCHESTER GUILD AND THE NATIONAL DEPOSIT FRIENDLY SOCIETY.

A branch of the National Deposit Friendly Society having been started in the Manchester district, the Manchester Guild have considered the attitude which the medical profession ought to adopt towards the society. We have already printed in THE LANCET[2] the severe words which the Guild considered it its duty to utter about the society and it is to be sincerely hoped, to quote the identical words employed, "that the practitioners of Manchester and district will have sufficient respect for their professional independence to prevent any one of them supporting this plausible but unsatisfactory scheme of medical aid."

We congratulate the Guild (which is also doing good work in the cause of hospital reform) upon so unequivocally taking the responsibility of giving sound advice. We have received a criticism of the method of the National Deposit Friendly Society from Mr. R. H. Wolstenholme, for more extended reference to which we hope to find space. Mr. Wolstenholme's article shows the attitude of the Manchester Guild to be perfectly right.

BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

THIS hospital, which forms part of the work carried out by the English Branch of the Order of St. John of Jerusalem, has been in operation in the Holy Land since 1882. It has now twenty beds for in-patients. Dr. W. E. Cant, the surgeon of the hospital, under whose charge it has been since 1888, sends the following particulars of the surgical practice during a period of ten years just completed.

The circumstances of ophthalmic diseases in Palestine bring especially into prominence those of the external parts of the eye which, with the operative work especially connected with those diseases, occupy the greater part of the surgeon's attention, whilst diseases of the interior of the eye, refraction errors, &c., which are most prominent at home, are subordinated. The most important part of the hospital work consists chiefly in the operative surgery for sequelæ of the contagious ophthalmia of the country, which exists in an endemic form and breaks out as an acute epidemic every year and almost exactly at the same time of the year, the end of July and beginning of August,

[2] THE LANCET, Dec. 11th, 1897.

continuing throughout the autumn well into the winter until the colder weather and rains set in. In the first half of the year scarcely any acute cases come under notice. A great number of eyes are annually destroyed, a vast number permanently damaged, and the seeds of long standing and permanent disease are sown wholesale.

Amongst the results requiring operative treatment, trichiasis and entropion stand numerically by far the first, as evidenced by the numbers here adduced, which of course constitute but a small fraction of the whole throughout the country. A great many of the cases are very severe and extreme; more often both upper lids are affected and not unfrequently the lower in addition. Judging from the trouble patients will take to travel long distances and their anxiety for operation it would appear that they experience much discomfort from the disease and derive relief from the operation. The number of lids which have been operated upon in the period mentioned amounts to 6037 upper lids and 169 lower lids. Many methods have been adopted for the former, but after trial Snellen's operation modified and considerably extended in degree, and sometimes with canthoplasty in addition, has been chiefly used, as soundest in its principle of action and simple in its performance. For the lower lid several methods have been used, according to varying conditions, more or less original.

The operation next most frequently called for is iridectomy for artificial pupil for adherent cicatrix of the cornea and leucomatous opacity following the ulcers of acute ophthalmia. The iridectomies numbered 714, of which 549 were for this purpose. The aim in these cases is more often to give to helpless persons sufficient sight to see their way about and to go about their business than to afford much visual acuity. Staphylomata of the cornea are exceedingly common as another result of the destructive ulcers of acute ophthalmia; they afford in their different degrees a large field for surgical experience. As an ultimate radical measure the operation of abscission of the staphyloma, closing the wound with the conjunctiva only with a *suture en bourse*, has been adopted in just upon fifty cases. The method seems a good one, affording frequently a stump scarcely diminished in size and one suitable for a country where there is great objection to submitting to the mutilation of total excision and where the people are mostly unfit to manage an artificial eye. Ulcers are extremely frequent, sometimes destroying the whole cornea or the whole of both corneæ; they often of course require surgical measures. Disease of the lacrymal apparatus also is common and pterygium abounds, both affording scope for surgical interference.

The old-fashioned phagedænic ulceration of former times appears to be not uncommon here and a number of patients the subjects of bad cicatricial ectropion present themselves; twelve of these have been operated upon for restoration of lids, in the majority of the cases by pedunculated flaps. Ectropion from permanent thickening of the conjunctiva is also rather frequent and in a good many cases Dr. de Wecker's operation and very ingenious sutures have been adopted; one of the patients presented permanent and extreme eversion of all four lids. Indeed, the effects of severe disease in this country allowed to go on unchecked or aggravated by native methods of treatment are often extremely striking, such as are not seen in civilised countries. Cataract extractions numbered 302, and needling operations, together with all secondary cataract operations, 141. These are not numerous certainly. Panas speaks in his "Traité des Maladies des Yeux" of cataract not being abundant in Egypt; whether this is so here or whether it is from the fact that the natives still adhere very greatly to their old methods in surgery as well as in other matters is uncertain. They still have free recourse to the older and more violent surgical procedures and huge cauterisations, setons, and issues of years' standing, cataplasms for acute ophthalmia unremoved from the eye for some days, as well as to charms, witches, and quackery in abundance, loving still those things that have about them the charm of mystery.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 7036 births and 4448 deaths were registered during the week ending Feb. 12th. The annual rate of mortality in these towns, which had been 18·7 and 19·2 per 1000 in the two preceding weeks, further rose last week to 20·7. In London the rate was 22·2 per 1000, while it averaged 19·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·3 in Croydon, 14·1 in Cardiff, 14·8 in Wolverhampton, and 14·9 in Bradford; the highest rates were 24·0 in Bristol, 24·3 in Brighton, 26·1 in Swansea, and 26·3 in Plymouth. The 4448 deaths included 497 which were referred to the principal zymotic diseases, against 488 and 453 in the two preceding weeks; of these, 171 resulted from measles, 123 from whooping-cough, 77 from diphtheria, 49 from diarrhœa, 43 from scarlet fever, and 34 from "fever" principally enteric). No death from any of these diseases was recorded last week in Wolverhampton; in the other towns they caused the lowest death-rates in Norwich, Croydon, Burnley, and Gateshead, and the highest rates in Birkenhead, Bristol, Derby, and Brighton. The greatest mortality from measles occurred in Brighton, Bristol, Swansea, Birkenhead, Halifax, and Sunderland; from scarlet fever in Leicester and Birkenhead; from whooping-cough in Brighton, Plymouth, Derby, and Sheffield; and from "fever" in Burnley. The 77 deaths from diphtheria included 45 in London, 4 in West Ham, 4 in Birmingham, 3 in Manchester, and 3 in Leeds. No fatal case of small-pox was registered during last week in any of the thirty-three large towns and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2871, against 3149, 3061, and 3964 on the three preceding Saturdays; 232 new cases were admitted during the week, against 248, 244, and 209 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 471 in each of the two preceding weeks, declined to 468 last week, but slightly exceeded the corrected average. The causes of 62, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Blackburn, Preston, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·4 and 18·0 per 1000 in the two preceding weeks, further rose to 20·1 during the week ending Feb. 12th, but was 0·6 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Perth and 16·4 in Dundee and in Leith to 21·1 in Aberdeen and 22·4 in Glasgow. The 607 deaths in these towns included 21 which were referred to whooping-cough, 21 to diarrhœa, 12 to measles, 6 to scarlet fever, 6 to diphtheria, and 6 to "fever." In all, 72 deaths resulted from these principal zymotic diseases, against 67 and 66 in the two preceding weeks. These 72 deaths were equal to an annual rate of 2·4 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 27 and 21 in the two preceding weeks, were again 21 last week, of which 15 occurred in Glasgow, and 3 in Paisley. The 12 deaths referred to measles showed a further increase upon those recorded in recent weeks, and included 11 in Glasgow. The fatal cases of diphtheria, which had been 3 and 8 in the two preceding weeks, declined to 6 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The 6 deaths from scarlet fever corresponded with the number in the preceding week, and included 3 in Glasgow and 2 in Edinburgh. The 6 fatal cases of "fever" showed a further increase upon recent weekly numbers, and included 2 in Glasgow and 2 in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 92 and 117 in the two preceding weeks, further rose to 126 last week, but were little more than half the number in the corresponding period of last year. The causes of 42, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·9 and 32·8 per 1000 in the two preceding weeks, further rose

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1893.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1893.	NOTIFIED CASES OF INFECTIOUS DISEASES.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fever.	Diarrhœa.	Total.	Annual rate per 1000 persons living.		
LONDON	4,509,766	3	1360	924	1	181	1	20	353	—	2823	8·2	—	473	57	161	254	—	35	1	37	1068	3·1	7605	22·0	134
West Districts.																										
Paddington	127,460	18	28	18	—	4	—	—	13	—	63	6·4	—	5	1	7	3	—	1	—	2	21	2·1	172	18·2	125
Kensington	172,174	24	34	13	—	3	—	1	15	—	68	6·0	—	8	4	6	2	—	1	—	—	22	1·7	254	22·3	127
Hammersmith	104,370	9	26	3	—	1	—	—	9	—	48	5·9	—	2	—	—	2	—	—	—	1	11	1·3	157	16·8	116
Fulham	125,275	27	58	37	1	6	—	—	16	—	117	16·2	—	17	—	6	3	—	1	—	—	27	3·9	187	19·5	136
Chelsea	91,713	22	27	22	—	3	—	1	8	—	61	9·7	—	11	—	5	1	—	—	—	—	23	3·3	150	24·3	143
St. George Hanover-square	84,648	5	12	7	—	3	—	—	3	—	23	3·7	—	10	—	—	2	—	1	—	—	14	2·3	91	14·7	108
Westminster	58,574	1	17	4	—	1	—	—	1	—	8	1·7	—	2	—	4	7	—	—	—	—	23	1·5	115	28·5	144
St. James Westminster	22,260	—	2	—	—	—	—	—	—	—	—	4·7	—	3	—	—	—	—	—	—	—	3	1·8	44	25·8	216
North Districts.																										
Marylebone	140,483	—	27	14	—	4	—	—	13	—	58	5·4	—	5	1	5	3	—	1	—	2	17	1·6	237	22·0	88
Hampstead	78,755	—	11	11	—	—	—	—	2	—	24	4·0	—	11	—	3	10	—	—	—	—	24	4·0	88	14·6	101
St. Pancras	243,416	—	30	44	—	16	—	—	23	—	133	7·1	—	23	2	6	9	—	3	—	1	43	2·3	466	25·0	133
Islington	244,616	—	70	47	—	17	—	6	22	—	161	6·1	—	43	4	17	16	—	2	—	6	88	3·3	553	21·3	125
Stoke Newington	34,440	—	—	3	—	—	—	—	4	—	12	4·5	—	—	—	1	4	—	—	—	—	5	1·9	43	16·2	91
Hackney	215,630	1	73	71	—	17	—	2	16	—	180	11·3	—	25	—	10	22	—	3	—	2	64	3·8	358	21·2	141
Central Districts.																										
St. Giles	37,519	—	12	2	—	—	—	—	9	—	23	8·0	—	2	1	1	1	—	—	—	1	5	1·7	78	27·1	213
St. Martin-in-the-Fields	12,424	—	2	2	—	—	—	—	1	—	4	4·2	—	1	—	—	—	—	—	—	—	1	1·1	40	13·9	164
Strand	23,264	—	3	2	—	1	—	—	2	—	6	3·4	—	2	—	3	1	—	—	—	—	6	3·4	44	24·6	83
Holborn	30,006	—	6	15	—	1	—	—	2	—	24	10·4	—	6	—	5	9	—	—	—	—	20	8·6	82	35·6	264
Clerkenwell	66,120	—	18	20	—	3	—	—	3	—	54	10·6	—	4	—	17	16	—	1	—	—	38	7·4	133	26·2	150
St. Luke	41,056	—	14	12	—	1	—	—	5	—	32	10·2	—	3	—	2	4	—	1	—	—	9	2·9	97	30·8	104
City of London	29,088	—	5	7	—	1	—	—	1	—	18	8·1	—	3	—	2	4	—	1	—	—	9	2·2	50	22·4	147
East Districts.																										
Shoreditch	121,455	—	27	20	—	6	—	—	10	—	63	6·8	—	29	2	6	20	—	1	—	—	68	7·3	301	32·3	184
Bethnal Green	129,527	—	53	38	—	6	—	—	10	—	107	11·8	—	7	3	8	26	—	1	—	2	47	4·7	275	27·8	176
Whitechapel	80,189	—	12	15	—	2	—	—	11	—	40	6·5	—	1	1	1	1	—	—	—	—	4	0·6	128	20·7	188
St. George-in-the-East	49,341	—	18	4	—	3	—	—	3	—	28	7·6	—	5	—	—	10	—	1	—	3	19	6·1	115	31·1	152
Limehouse	48,661	—	18	16	—	1	—	—	7	—	42	9·3	—	5	—	2	7	—	—	—	—	15	3·3	109	24·2	121
Mile End Old Town	142,566	—	42	15	—	2	—	1	7	—	77	8·9	—	11	1	1	17	—	1	—	—	32	3·7	181	21·0	91
Poplar	170,220	2	81	41	—	12	—	1	13	—	150	11·5	—	27	3	3	31	—	3	—	—	71	5·4	353	27·0	153
South Districts.																										
St. Saviour Southwark	24,582	—	6	11	—	—	—	—	2	—	19	10·1	—	5	—	2	2	—	—	—	—	9	4·8	62	32·9	256
St. George Southwark	60,466	—	15	22	—	4	—	—	7	—	48	10·3	—	15	—	5	2	—	—	—	1	23	5·0	136	29·3	140
Newington	123,183	—	39	25	—	3	—	—	10	—	78	8·3	—	18	—	6	1	—	—	—	1	29	3·1	223	23·6	117
St. Olave Southwark	11,298	—	—	3	—	—	—	1	4	—	13	15·0	—	3	—	1	—	—	—	—	—	5	6·8	21	24·3	147
Bermondsey	85,738	—	21	11	—	5	—	—	2	—	39	5·9	—	17	—	2	3	—	2	—	—	26	4·0	170	26·9	114
Rotherhithe	40,849	—	17	2	—	2	—	—	1	—	22	7·0	—	1	—	1	4	—	—	—	—	8	2·6	54	17·2	112
Lambeth	304,073	—	75	43	—	9	—	—	29	—	156	6·7	—	21	—	5	12	—	—	—	3	61	2·6	542	23·2	118
Batterseа	171,921	—	91	65	1	5	—	1	18	—	181	13·7	—	27	—	7	8	—	2	1	2	66	4·2	276	20·2	133
Wandsworth	202,626	—	73	49	—	7	—	1	11	—	141	9·1	—	13	3	7	8	—	1	—	—	31	2·0	245	15·8	148
Camberwell	261,189	—	73	50	—	6	—	2	18	—	149	7·4	—	29	3	6	11	—	1	—	—	63	3·1	362	19·1	137
Greenwich	160,441	—	66	69	—	11	—	—	20	—	165	11·2	—	5	2	7	11	—	1	—	—	25	1·8	298	19·4	133
Lewisham (excluding Penge)	88,562	—	9	13	—	5	—	—	3	—	30	4·4	—	2	—	4	4	—	1	—	—	8	1·2	110	14·7	96
Woolwich	41,478	—	20	7	—	2	—	1	5	—	35	10·1	—	2	—	2	3	—	—	—	1	8	2·1	73	22·9	146
Lee	29,717	—	15	16	—	—	—	3	6	—	32	12·8	—	5	—	1	3	—	—	1	—	10	4·1	61	16·7	182
Plumstead	62,531	—	24	14	—	1	—	—	1	—	29	9·4	—	6	—	1	1	—	—	—	—	8	1·3	66	13·5	68
Port of London	—	—	—	—	—	1	—	—	—	—	2	—	—	2	—	—	—	—	—	—	—	2	—	—	—	—

* Including 23 cases of membranous croup.

† Including deaths from membranous croup.

to 34·9 during the week ending Feb. 12th. During the past six weeks of the current quarter the death-rate in the city has averaged 32·1 per 1000, the rate during the same period being 22·2 in London and 18·7 in Edinburgh. The 234 deaths registered in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 17 and 14 in the two preceding weeks; of these, 7 resulted from "fever," 3 from scarlet fever, 3 from diarrhœa, 2 from diphtheria, 2 from whooping-cough, and not one either from small-pox or measles. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 7 in the two preceding weeks, were again 7 last week. The fatal cases of scarlet fever, which had been 3 and 2 in the two preceding weeks, rose again to 3 last week. The 2 deaths from whooping-cough showed a slight further decline from those recorded in recent weeks. The 234 deaths in Dublin last week included 39 of infants under one year of age and 57 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons showed an increase upon recent weekly numbers. Nine inquest cases and 5 deaths from violence were registered; and 88, or more than a third, of the deaths occurred in public institutions. The causes of 16, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1898.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 8·2 per 1000 of the population, estimated at 4,504,766 persons in the middle of this year. In the three preceding months the rates had been 16·0, 12·7 and 9·8 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. James Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Fields, Strand, and Lewisham; while they showed the largest excess in Fulham, Hackney, Bethnal Green, Poplar, St. Olave Southwark, Battersea, and Lee. Three cases of small-pox were notified in London during January, against 1, 3 and 1 in the three preceding months; of these 2 belonged to Poplar and 1 to Hackney sanitary areas. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during January, and no patients remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a further decline from that recorded in the three preceding months; this disease was proportionally most prevalent in Fulham, Bethnal Green, Mile End Old Town, Poplar, St. Olave Southwark, Battersea, and Woolwich sanitary areas. The Metropolitan Asylum Hospitals contained 3021 scarlet fever patients at the end of January, against 3571, 3731, and 3507 at the end of the three preceding months; the weekly admissions averaged 232, against 350, 367, and 272 in the three preceding months. The prevalence of diphtheria in London showed a marked further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Hackney, Holborn, Clerkenwell, St. Saviour Southwark, Battersea, Greenwich, and Lee. There were 1055 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of January, against 1029, 1042, and 1066 at the end of the three preceding months; the weekly admissions averaged 132, against 155 and 151 in the two preceding months. The prevalence of enteric fever in London during January showed a further decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, City of London, St. George-in-the East, Poplar, and St. George Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 106 enteric fever patients at the end of January, against 177, 155, and 116 at the end of the three preceding months; the weekly admissions averaged 17, against 23 and 17 in the two preceding months. Erysipelas showed the highest proportional prevalence in Fulham, St. Giles, St. Luke, Bethnal Green, and Whitechapel sanitary areas. The 20 cases of puerperal fever notified in London during January included 5 in Islington, 3 in Lee, 2 in Hackney, and 2 in Camberwell sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, January 29th, the deaths of 7605 persons belonging to London were registered, equal to an annual rate of 22·0 per 1000, against 16·1, 19·0, and 21·3 in the three preceding months. The lowest death-rates during January in the various sanitary areas were 13·5 in Plumstead, 14·6 in Hampstead, 14·7 in St. George Hanover-square and in Lewisham (excluding Penge), 15·8 in Wandsworth, 16·2 in Stoke Newington, and 16·7 in Lee; the highest rates were 28·5 in Westminster, 29·3 in St. George Southwark, 30·8 in St. Luke, 31·1 in St. George-in-the-East, 32·3 in Shoreditch, 32·9 in St. Saviour Southwark, and 35·6 in Holborn. During the four weeks of January 1068 deaths were referred to the principal zymotic diseases in London; of these, 473 resulted from measles, 294 from whooping-cough, 161 from diphtheria, 67 from scarlet fever, 37 from diarrhœa, 35 from enteric fever, and 1 from an ill-defined form of continued fever. These 1068 deaths were equal to an annual rate of 3·1 per 1000; in the various sanitary areas the lowest zymotic death-rates were recorded in Hammersmith, St. Giles, Strand, Whitechapel, Lewisham and Plumstead; and the highest rates in Westminster, Shoreditch, St. George-in-the-East, Poplar, St. Saviour Southwark, St. George Southwark, and St. Olave Southwark. The 473 fatal cases of measles were more than double the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Westminster, Holborn, Shoreditch, St. Saviour Southwark, St. George Southwark, and Bermondsey sanitary areas. The 67 deaths referred to scarlet fever were 16 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Fulham, Newington, and Battersea. The 161 fatal cases of diphtheria almost corresponded with the corrected average number; the mortality from this disease was highest in Paddington, Fulham, Westminster, Holborn, Bethnal Green, St. George Southwark, and Battersea sanitary areas. The 294 deaths from whooping-cough were 15 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, Shoreditch, Bethnal Green, St. George-in-the-East, Mile End Old Town, and Poplar. The 35 fatal cases of enteric fever were 16 below the corrected average number; the mortality from this disease showed no marked excess in any of the sanitary areas. The 37 deaths from diarrhœa were 19 below the corrected average number. In conclusion, it may be stated that the mortality in London from these principal zymotic diseases during January was nearly 20 per cent. above the average, owing to the excessive fatality of measles.

Infant mortality in London, measured by the proportion of deaths of infants under one year of age to registered births, was last month equal to 134 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Stoke Newington, Strand, Whitechapel, Mile End Old Town, Lewisham, and Plumstead; and the highest rates in St. James Westminster, St. Giles, Holborn, Clerkenwell, Shoreditch, and St. Saviour Southwark.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced:—Fleet-Surgeon Leonard H. Kellatt to the *Vernon*; Staff-Surgeon Timothy J. Crowley and Surgeon Edward Sutton to the *Bonaventure*; James H. Robertson, M.B., to be Surgeon and Agent at Portpatrick; and Staff-Surgeon Geo. W. Bell to be Fleet-Surgeon.

ARMY MEDICAL STAFF.

Surgeon-Major Frederick S. Heuston, F.R.C.S. Irel., from the Seconded List, to be Surgeon-Major, *vice* A. Perry, retired.

The under-mentioned Surgeon-Captains to be Surgeon-Majors (dated Jan. 30th, 1898): Michael T. Yarr, Langton P. Mumby, Charles H. Melville, Bernard L. Mills, George S. Cardew, Horace Cocks, James B. Wilson, John G. Black, John Kearney, Francis A. Saw, Frederick W. G. Hall, Arthur Kennedy, Henry P. G. Elkington, John B. W. Buchanan, Frederick T. Skerrett, Henry M. Adamson, Tudor G. Lavie, Herbert Brown, Thomas H. Corkery, Warren R. Crooke-Lawless, Walter P. Squire, Stanley J. W. Hayman. The undermentioned surgeons on probation to be Surgeon-Lieutenants: Hubert Oliver Browne Browne-Mason, Frederick Septimus Penny, Brian Watts, Henry Graham Martin, John Gerald Berne, Frederick Fitzgerald Carroll, John Duncan Graham Macpherson, William Parnell Gwynn, Standish de Courcy O'Grady, Augustus Henry Owen Young, Ernest Albert Bourke, Montague Marmion Lowsley, Alfred Crichton Lupton, Gerald Bayley Carter, Norman Hamilton Ross, Percy Hildebrand Collingwood, Charles John O'Gorman.

Surgeon-Major Seymour has left for India.—Surgeon-Lieutenant Cochrane will shortly embark for Bombay.—Surgeon-Captain MacCarthy has joined at Woolwich for duty.—Surgeon-Major Parkes relieves Brigade-Surgeon-Lieutenant-Colonel Mackinnon at Reading.—The following officers have been detailed for duty in Egypt: Brigade-Surgeon-Lieutenant-Colonel Barrow; Surgeon-Majors Robinson, Barnes, and Stuart; Surgeon-Captains Borradaile and Malder; Surgeon-Lieutenants Bliss, Cummins, and Hopkins.

INDIA AND THE INDIAN MEDICAL SERVICE.

The Queen has approved of the following admissions to the Indian Medical Service:—To be Surgeon-Lieutenants: Thomas Henry Delany, John Walter Forbes Rait, Stewart Ranken Douglas, Eugene John O'Meara Godfrey Tate, Roy Fearon Baird, Andrew Thomas Gage, George Campbell Laing, George McPherson, Spencer Hunt, Alfred George Sargent, Walter Hulbert Cox, de Vere Condon, Henry Albert John Gidney, Henry Kirkpatrick, Frederick Durand Stirling Fayrer, Padmahar Krishna Chitale, and William Lethbridge. The Queen has also approved of the transfer of the undermentioned officer to the Half-pay List: Surgeon-Lieutenant-Colonel Hugh McCalman, M.D. Aberd., Bombay Establishment. The Queen has approved of the retirement from the Service of the under-mentioned officers: Surgeon-Lieutenant-Colonel Gordon Price, M.D. R.U.I., Bengal Establishment; Surgeon-Lieutenant-Colonel Henry Adey, Bombay Establishment, and Surgeon-Lieutenant-Colonel Hormasji Dadabhai Masani, Bombay Establishment.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Major J. E. Squire, M.D. Lond., to be Surgeon-Lieutenant-Colonel, and to command, under the provision of paragraph 55A of the Volunteer Regulations, 1897.

VOLUNTEER CORPS.

Rifle: 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment): Surgeon-Lieutenant H. P. Job to be Surgeon-Captain. 2nd Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Major R. de la P. Beresford to be Surgeon-Lieutenant-Colonel. 1st Middlesex (Victoria and St. George's): Frederick John McCann, M.D. Edin., to be Surgeon-Lieutenant. 2nd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major W. G. Stevens to be Surgeon-Lieutenant-Colonel.

VOLUNTEER INFANTRY BRIGADE.

Home Counties Brigade: Surgeon-Major W. H. Bull, 1st Bucks Volunteer Rifle Corps, to be Brigade-Surgeon-Lieutenant-Colonel on being appointed Senior Medical Officer to the Brigade.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain W. C. James, M.D. Aberd., resigns his commission; Surgeon-Lieutenant H. P. Job to be Surgeon-Captain. Surgeon-Lieutenant J. C. Wright, M.B. Cantab., 2nd West Riding of Yorkshire Volunteer Artillery to be Surgeon-Lieutenant.

THE INDIAN FRONTIER WAR.

Since our last report regarding the progress of affairs on the Indian frontier fresh intelligence has been received from which we learn that Sir William Lockhart has postponed his departure from India in order to devise new plans for a recommencement of operations against the Afridis unless they submit before the 23rd inst. The tribes have been warned accordingly and in the event of their refusal an advance will at once be made against them; indeed, an advance has, as far as the still unsubmissive Zakka Khels are concerned, already commenced from Mamani. Meanwhile, the preparations for the intended attack on the Afridis are being rapidly completed and the force is now equipped with the best transport available. The debate in the House of Commons on the Indian frontier question has shown that there was, after all, little or no essential difference between the last and the present Government in regard to the policy it was deemed desirable to follow, but unfortunately the circumstances in which the Indian Government were placed by the widespread revolt among the frontier tribes left them no option in the matter; they were most reluctantly compelled to embark on this frontier war in order to avoid incurring a very serious risk of worse evils in the near future, and it is highly probable that whether Sir Henry Fowler or Lord George Hamilton happened to have been Secretary of State for India would have practically made but little difference—there would have been no escaping the exigencies of the situation occasioned by the revolting tribes. The cost of the war and the losses sustained have, no doubt, been disproportionately large as compared with what has been gained, but it is a mistake to suppose that the power of the Afridis—the only tribe on the border that remains unsubmissive—has not been materially weakened even if it has not been already broken. Our losses on the Indian frontier from June 10th to Feb. 7th have been heavy. They have amounted to 684 British and 1233 native troops. They include 43 British officers killed, 90 wounded, and 12 soldiers missing. Several hundred followers are believed to have been killed or are missing. In spite of the enormous strain to which our government of India has been subjected of late by plague, pestilence, and famine, as well as war, its stability remains unshaken. Nor is the tribal revolt on the frontier the only opposition with which the Government has to contend at the present time, for it has also had a serious rising in Baluchistan on its hands.

THE SERVICE EXAMINATIONS.

We herewith print the lists of the successful candidates for commissions in Her Majesty's Army Medical Staff and Indian Medical Service. It will be remembered that some months ago it was decided that all the candidates should be examined on one list and that after the examination they should be allowed to elect for their service before joining at Netley. The system was, we understand, introduced in order to facilitate the obtaining of candidates for the Army Medical Staff. The following results, as far as the Army Medical Staff is concerned, show a lamentable failure. Not only have the authorities failed to obtain anything like the number of men which they required to fill the vacancies advertised, but it will also be observed that only one candidate on the Army Medical Staff list could have obtained a commission in the Indian Service.

ARMY MEDICAL STAFF.

Names and order of merit.	Marks.	Names and order of merit.	Marks.
1. W. H. S. Nickerson	2775	12. E. J. Lobbin	2154
2. A. E. Walter	2693	13. A. R. O'Flahertie ...	2148
3. G. S. Nickerson ...	2617	14. H. Herrick	2127
4. A. E. Weld	2504	15. C. W. Mainprise ...	2103
5. J. S. Gallie	2474	16. G. J. S. Archer ...	2069
6. G. B. Crisp	2439	17. R. S. H. Fuhr	2066
7. H. B. G. Walton ...	2324	18. H. O. Hall	2053
8. W. Jagger	2323	19. F. J. C. Hefferman	1994
9. A. B. MacCarthy ...	2279	20. J. Cowan	1965
10. R. Selby	2196	21. E. P. Hewitt	1943
11. A. E. Taorp	2163		

INDIAN MEDICAL SERVICE.

Names and order of merit.	Marks.	Names and order of merit.	Marks.
1. T. Hunter	3470	9. G. F. S. Genge ...	2904
2. W. R. Battye	3345	10. E. F. G. Tucker ...	2836
3. H. B. Meakin	3215	11. W. G. Liston	2876
4. G. Hutcheson	3157	12. F. S. C. Thompson	2805
5. K. W. Anthony ...	3066	13. H. J. R. Twigg ...	2770
6. G. E. Stewart	3046	14. C. W. McG. Orpen	2745
7. H. Boulton	2994	15. T. S. Novis...	2721
8. J. W. Watson	2962		

DEATHS IN THE SERVICES.

Surgeon-General Samuel Fuller, M.R.C.S. Eng., L.S.A., at Woodlands, Orchard Hill, near Bideford, on Feb. 7th, from carcinoma of the throat, in his sixty-fifth year. The deceased had served with distinction through the Indian

Mutiny and in the Egyptian War of 1882. Since his retirement from the army Surgeon-General Fuller had lived at Northam, and for some ten years had been a highly respected member of the District Council. He was unmarried. The funeral took place in Northam churchyard on Feb. 10th with many tokens of respect.

Surgeon-Lieutenant-Colonel D. C. M'Fall, M.R.C.S. Eng., at his residence, Warrington, on Monday, Feb. 8th, aged sixty-six years. It was only last year that the deceased officer resigned medical charge of the 8th and 40th depôts stationed at Warrington. His career in the medical services was a distinguished one. He entered the naval service as surgeon in the Baltic fleet, and subsequently passed through the Crimean war. He left the navy, became connected with the 87th Royal Irish Fusiliers, the 34th Foot, known as the Border Regiment, and the 80th Royal Irish Fusiliers. With those regiments he served twenty years in India. He was engaged in the Indian Mutiny. In India he rendered great service in helping to stamp out more than one epidemic of cholera, and was several times recognised and mentioned in the War Office despatches.

Deputy Surgeon-General W. Ord-Mackenzie (retired), aged eighty-four years. He joined the Army in 1842 and served for many years with the old 3rd King's Own Light Dragoons under the old regimental system. He retired as a Regimental Surgeon-Major in 1866 with the honorary rank of Deputy Surgeon-General.

THE MILITARY DESPATCHES RELATING TO THE INDIAN FRONTIER.

We are very glad to notice that the work done by the medical services in the late operations on the Indian frontier are handsomely recognised in General Bird's despatch on the Tochi Field Force and in that of the late General A. Yeatman-Biggs dealing with the operations in the Kurram Valley in the autumn of last year. These despatches have received the concurrence and approval of the Governor-General in Council and of the Commander-in-Chief in India and have been recently published in the official *Gazette* of this country. General Bird says: "The losses by disease have, I regret to say, been very heavy, three British officers and over one hundred British soldiers having died from sickness, besides fifty native soldiers and many followers. Great numbers have been invalided or are still in hospital. The Medical Department has been exceptionally hard worked throughout the expedition and my best thanks are due to all ranks of the profession." The Medical Department was administered by Surgeon-Colonel R. H. Carew, D.S.O., Army Medical Staff, and General Bird brings to special notice the names of the following officers for good work performed: Surgeon-Lieutenant-Colonel W. A. Simmonds and Surgeon-Major H. C. Hudson, both of the Indian Medical Service, and Surgeon-Captain L. P. Mumby, M.B. Lond., Army Medical Staff. General Yeatman-Biggs specially mentions Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O. and Surgeon-Captain C. B. Prall of the Indian Medical Service.

THE SOUDAN CAMPAIGN.

The appearance in the papers of the names of several officers of the medical staff who are to take part in the Soudan expedition forcibly reminds us of the fact that an Anglo-Egyptian force will soon be advancing in the direction of Khartoum. General Gatacre, who it will be remembered recently did excellent work in Bombay in connexion with the plague, has found a new and probably a more congenial sphere for the display of his energies as a general in command of the British troops. He is labouring hard at Dekhish and Abu Dis in fitting his brigade for the work before them. Since he arrived in camp we are told that the regimental canteens have been closed as far as the sale of spirits and intoxicating liquors are concerned. The troops are in excellent health and condition and in good fettle, as has been proved by the way in which they have stood long marches, manœuvring and field-firing in the desert. General Gatacre's brigade comprises the Lincolnshire, Cameron Highlanders and Warwickshire regiments among others. The medical arrangements for the advance of the expeditionary force are ready and most of the medical officers with the Egyptian or British Army have already had field experience in Egypt and on the Nile.

Her Majesty the Queen has expressed a wish to Miss H. Norman, R.R.C., Lady Superintendent of Nurses at the Royal Victoria Hospital, to be furnished with photographs of the wounded men from the North-west Frontier of India whom she inspected at her visit to the hospital last week. The men are extremely pleased and gratified at this further mark of Her Majesty's kindness.

Surgeon-Major-General W. Nash, M.D. Edin., Army Medical Staff, Principal Medical Officer at the Royal Victoria Hospital, Netley, arrived at Osborne and had the honour of dining with the Queen and the Royal Family.

Correspondence.

"Audi alteram partem."

THE "OVERCROWDING" OF CEMETERIES AND THE PRACTICE OF CREMATION.

To the Editors of THE LANCET.

SIRS,—You will doubtless have observed in the *Times* of Dec. 22nd, 1897, a leading article on the so-called "overcrowding" of cemeteries and on the practice of cremation as a suggested alternative for it. It may also have struck you that while this suggestion was based on a statement the accuracy of which modern science is not prepared to admit and which cannot fail sooner or later to receive due correction, the article referred to left altogether unnoticed, and as if it had never formed part of the question, the explanation of the real cause of that so-called "overcrowding" and the no less obvious remedy for it which I had furnished to the same paper, and which it had found wholly satisfactory, years before. It may also have occurred to you as unfortunate that, owing to the overcrowded state of its columns, nearly a month elapsed before room could be found for the insertion of that *résumé* of the whole case which the omission in question rendered imperative, and which necessarily occupied the whole of the space which the editor was able to place at my disposal. It follows, therefore, that, in this way and up to now, the *Times* has had the whole field of uncontradicted assertion to itself.

Now, Sirs, the very last thing I would have you suppose by the explanation I am here giving you is that I mean by it to reflect on the course pursued by the present editor of the *Times*. The *Times* is a newspaper, and nothing is more natural than that a newspaper which has been led to believe a statement which jumps with its opinions but of the technical value of which it has no means of judging, should make the most of it—even of such a statement as this: "It is hardly disputed that infections may be propagated through the earth from the bodies of the dead"; and again: "By the act of interment we literally sow broadcast through the land innumerable seeds of pestilence which long retain their vitality, many of them destined at some future time to fructify in premature death or ruined health for thousands"! What, Sirs, even if the editor had given me the opportunity, could I oppose to such a statement as this? Could I simply say that it was not true? Who on the whole editorial staff or among the majority of its readers would be in a position to say whether it was or not? In a word, what would a discussion raised on such a foundation in a public journal avail to prove either one thing or the other? What more, therefore, could I say than that I was prepared to wait for such a capable and disinterested inquisition into the truth of it as a jury of experts could alone pronounce?

That for the moment, then, has been my answer to an article the value of which depends mainly on the accuracy of this statement. Meantime, the only thing that "has been thrown broadcast through the land" has been the statement itself.

But there is a point which, though barely touched upon by the article referred to, a great newspaper like the *Times* and its many intelligent readers *are* capable of judging of—and that is the facility afforded by the practice of cremation for the commission of crime. I propose, therefore, to offer its editor another letter on this part of the subject.

I am, Sirs, yours faithfully,

F. SEYMOUR HADEN.

Woodcote Manor, Alresford, Hants, Feb. 4th, 1898.

"THE PATHOLOGY AND TREATMENT OF GOUT."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 12th Dr. Rudolf raises, *apropos* of my paper on the Pathology and Treatment of Gout published in THE LANCET of Jan. 15th last, the interesting question as to whether the uric acid found in the blood and connective tissues in gout may not be a by-product in the obscure conditions producing that disease. In my opinion the reason why deposits of sodium biurate are so frequently found at post-mortem examinations in the joints of persons who have suffered from granular kidney disease but have never been known to suffer from ostensible gout during life is that in such cases the deposition of the biurate into the joints has been very slow and gradual and has never become excessive, whereas a somewhat sudden and copious deposit is required to produce an attack of acute or subacute gout and a considerable amount must be present in the joints to produce the deformities of chronic gout. Although I do not think that uric acid can be considered a by-product in gout, yet I am quite at one with Dr. Rudolf in considering that it is not the primary cause of the disease. The primary pathogenic factor in gout is, I believe, a functional or organic affection of the kidneys which interferes with the complete elimination of the uric acid manufactured in those organs and so allows absorption of the non-excreted portion of the uric acid to take place into the general circulation. This view renders it quite intelligible why uric acid can always be found in the blood in cases of granular kidney disease and the fact that it is found in smaller proportions than in cases of gout explains why the deposition of the biurate into the joints may be so slow and gradual as not to produce the symptoms of ostensible gout.

I am, Sirs, yours faithfully,

Weymouth-street, W., Feb. 12th, 1898. ARTHUR P. LUFF.

To the Editors of THE LANCET.

SIRS,—The following remarks are suggested by Dr. Rudolf's letter under the above heading in THE LANCET of Feb. 12th.

Ostensible gout is unquestionably acute articular inflammation. That the deposit of sodium biurate in articular tissues is a competent factor of inflammation is scarcely open to doubt. Hardly less doubtful can it be that if such deposition takes place very slowly there are many persons whose tissues so irritated will not react so energetically as to exhibit acute inflammation. This being so it fully explains how urates may be found post mortem in the joints of persons who have never suffered from ostensible gout. Various as is the susceptibility of the articular tissues of different individuals to inflammatory reaction on injury there are probably none so slightly susceptible as not to be acutely inflamed by a sudden and copious deposition of sodium biurate and probably none sufficiently susceptible to be similarly affected if the deposition takes place by slow degrees. The "something more" than the presence of urates in the joints which is necessary for the production of ostensible gout is therefore simply susceptibility of the articular tissues to inflammation, and that this susceptibility varies in different persons and in the same persons at different times experience daily tells us.

I am, Sirs, yours faithfully,

P. GOWAN, M.D. Edin.

Upper Woburn-place, W.C., Feb. 12th, 1898.

HEREDITY IN CANCER.

To the Editors of THE LANCET.

SIRS,—May I take leave to point out that in your necessarily condensed report of the discussion on Cancer at the West London Medico-Chirurgical Society in THE LANCET of Feb. 12th you attribute to me a statement which, correct in itself, yet apart from the context expresses the exact opposite of what I said and have contended for years?

My reference was to a paper in the *British Medical Journal* of Oct. 10th, 1885. This was an analysis of 1075 cancer cases with some near relative similarly affected in 15·7 per cent. Three sets of control-statistics drawn from medical men, tuberculous patients, and people with miscellaneous ailments gave a rather larger ratio—roughly speaking, 20 per cent.—with "cancer in the family." The necessary inference was that hereditary influences as a predisposing cause of cancer are *nil*. Apart from statistics, the strongest argument against heredity to my mind is afforded by the fact that no case ever arises without a direct and definite exciting cause whether there be cancerous relatives or not.

I am, Sirs, your obedient servant,

Gloucester-place, W., Feb. 14th, 1898. HERBERT SNOW.

"THE NOTIFICATION OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—With due deference to Dr. W. Woodward I beg to submit that his idea of notifying influenza is altogether impracticable. The means available for diagnosis as far as I am aware in the hands of general practitioners are so equivocal and hence the diagnosis so uncertain that it is obvious innumerable cases of common febricula accompanied with pain or other catarrhal conditions especially in the hands of whimsical practitioners would be notified as such and it would be an extremely delicate and invidious task to gainsay any given practitioner on this account and as a consequence the greatest confusion would prevail and an intolerable burden be thrust upon the already overburdened ratepayers, and the whole system of notification would probably be brought into contempt. If I am correct with regard to the uncertainty of diagnosis it follows that the statistics from which Dr. Woodward imputes from 50 to 100 deaths weekly in London from the complaint in question must be swallowed with a grain of salt.

I am, Sirs, yours faithfully,

Peckham, S.E., Feb. 5th, 1898. CLEMENT H. SERS.

THE ASYLUMS BOARD "SCAPEGOAT."

To the Editors of THE LANCET.

SIRS,—The dismissal of Mr. A. T. O. White from the superintendentship of the Darenth Imbecile Asylum for reasons which, as you have already pointed out, are obviously insufficient calls imperatively for action on the part of our profession to protect a professional brother. The facts (and many now know them) do not warrant the punishment inflicted by the committee, which is equivalent to a fine of several thousand pounds, besides the unjust moral infliction and subsequent loss from damage to professional reputation. A medical man with an imputation against him is often driven to practise abroad, so that the punishment in this case not only represents a great loss of deferred pay in the prospect of pension, but may also be equivalent to life-long banishment from his native country.

I suggest that a committee or deputation be formed to wait on the Poor-law Board to demand that a searching inquiry be held. An inquiry by unbiased, independent men, from what I know of the actual facts, could not, I believe, arrive at any other conclusion than a condemnation of the Special Committee and a total exculpation of the medical officer.

In conclusion, I would add that in thirty years' experience of committees of institutions dealing with medical men I have never known or heard of so great an injustice.

I have the honour to be, Sirs, your obedient servant,

Feb. 16th, 1898. MEDICO-PSYCHOLOGICUS.

"DR. CLIFFORD ALLBUTT'S 'SYSTEM OF MEDICINE.'"

To the Editors of THE LANCET.

SIRS,—A suggestion that a "tropical edition" of this work should be published is put forward in THE LANCET of Feb. 12th by "Civil Surgeon." May I add on the same side that one copy at least would have a hearty welcome from,

Sirs, yours faithfully,

Newcastle-on-Tyne, Feb. 12th, 1898. TRAVANCORE.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—The following candidates having passed the examination for the Licence in Medicine of the Royal College of Physicians of Ireland were admitted as Licentiates on Friday, the 11th inst.: James Douglas Macdonogh, L.R.C.S. Irel., and William Arthur Winter, M.D. Dubl.

JERRY-BUILDING AT BELFAST.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 536.)

ONE of the great evils of Belfast is the promiscuity of pigs, poultry, ponies, donkeys, horses, and cows—all living, if not actually under the same roof as human beings, still on the same premises, in small backyards totally unsuited for the purpose. With regard to cows this is especially dangerous, for there is the further risk of contamination of milk. The condition of three or four dairies which I visited while examining some of the worst property in Belfast was sufficiently bad in itself to account for the prevalence of epidemic disease. In the south side of the town I came upon an unpaved back yard which was reeking with liquid manure. This manure issued from the cow stables that gave on to the yard. The water for the dairy purposes was taken from an unprotected cistern which was suspended over a dirty closet. Manure heaps were piled up close to this cistern. A grid in the middle of the yard allowed the liquid portions of the manure to flow into the sewer when the amount was more than the unpaved soil of the yard could absorb. As if the stench of the manure was not sufficient, there issued from this untrapped grid the effluvia of the sewers. Now close at hand there was a big wooden tub in which the milk cans were washed. The water used for this purpose looked very repulsive, and no wonder, for each time a can or a milkpail was lifted off the ground near the tub, a certain amount of manure stuck to it and was therefore conveyed to the water in which it was washed. Thus the milk is carried to the customers in cans that have been washed with water that is mixed with manure. In such dirty water pathogenic germs if once introduced would multiply with great facility, nor is it easy to see how a tub made of so porous a substance as wood can be satisfactorily disinfected. The mere scouring out of such a tub would not suffice. Steam under pressure should be discharged inside, but of course there is no apparatus for such an operation. Overlooking this filthy yard there was a whole row of houses, the bedroom windows of which on being opened must give admittance to the odours generated by the manure-sodden earth of the dairy yard.

From this dairy I went to a very quiet, broad, respectable-looking street. The houses here are rented for about £20 a year and to judge from the general appearance such a neighbourhood should be free from any conspicuous sanitary defects. In the backyards or gardens there are water-closets situated by the side of ashpits. Over the closets are large, flat cisterns measuring about 4½ ft. by 3 ft. and only twelve inches in depth. The water-line comes up to about nine inches; so there is a wide but shallow expanse of water which is uncovered and spread out to receive the dust blown from the ashpit which is placed not farther than five feet below and which is likewise uncovered. This ashpit measures about 5 ft. by 6 ft. The water from the uncovered cistern feeds the water-closet underneath and in many instances the kitchen tap beyond. In some cases, however, the connection between the houses and these cisterns have been cut off and the house supply comes direct from the main, the cistern serving only to flush the closet. This is certainly very much to be preferred than any attempt to improve the cistern. What has been done for some of the houses should be done, and this at once, for all the houses. At the same time the water-closets should be carefully examined. One of these closets, I found, instead of draining into the sewer, simply emptied itself into the ashpit of the next-door house. If in the comparatively rare instances where the water-closet system has been adopted it does not work any better than this, it can scarcely be considered as an improvement. In another street, but close at hand, I visited a middle-class house where the water came from a cistern placed under the apex of the roof. It was covered over with two ill-fitting and loose boards that were black with the soot from the surrounding chimneys. The lead flashings holding the cistern were so turned as to let in the water from the roof. Near at hand in the yard below was an uncovered ashpit from which the dust might be blown on to the roof and thus mix with the water drunk in the house. Most of the cisterns, however, are not under the roofs of the houses, but in this part of the town are frequently in very exposed positions on the top of outbuildings, and can easily be reached from the back passages, where these passages exist. As they are either not covered at all or very inefficiently covered there is nothing to prevent mischievous boys from throwing things into them and the hurling of a dead cat into a neighbour's cistern is considered a good practical joke. Before leaving the comparatively prosperous south side of the town I was shown, near to Great Victoria-street, a house which had its ashpit close against the back bedroom wall. The liquid from this ashpit saturated the ground below the floor of the house and the odour was perceptible in the dwelling room. When it was emptied the garbage, &c., from the ashpit had to be carried through these rooms. At the back of this house there were a cattle yard and piggeries. A little further on, but still close to one of the handsomest thoroughfares of Belfast, I came upon a cottage inhabited by a poor woman and a number of children. There was hardly any furniture in the place but dirt in abundance. Behind the ground-floor living-room the small pantry and sink were within 7 ft. of an open ashpit and privy combined. The children had not taken the trouble to go to the privy but had instead made use of the very small yard. The mother on her side had not taken the trouble to clear the mess away. There were no signs of washing. The children grovelled about in a half-naked and filthy condition and breathed a very foul atmosphere. Immediately opposite there was a house where four pigs were kept in a backyard that only measured 11 ft. by 15 ft. About half this yard was walled off for the pigs and the pigsty extended to within two feet of the back window. In the yard of a similar house next door three pigs were kept and the filth from these pigsties has to be carried through the houses, for there are no back passages. Of course, the pigs likewise pass through what should be the parlour. The street is paved with cobbles. The subsoil was made up of the contents of ashpits and road scrapings. The subsoil is thus not only foul of itself but is rendered more foul by leaking ashpits and the filth of the piggeries. It would be necessary not merely to destroy these houses but to dig up the earth on which they stand and cart it all away.

Leaving the south side and striking out for the western part of the town I visited, off the Shankhill-road, some of the poorest and most miserable dwellings I have ever seen. The living-room of one little cottage was below the level of the street. A few fragments of brick tiles showed that there had formerly been some sort of flooring though now there was nothing but the bare earth. The window and door were so small that the light was insufficient. Coming through the backdoor right into the middle of this room lay the trunk of a large tree. The people inside were engaged in wood-chopping. Two old women crouched over a small fire. One of them held in her arms a baby that seemed more dead than alive, such was the ghastly pallor of its face. An old man with bent back groped about picking up and chopping bits of wood. It all seemed like a hut in a dark and abandoned forest rather than a house in the midst of a great and prosperous city. To reach the back-yard I had to climb over the trunk of the tree, and there I found so much water, mud, and filth that a plank had been laid down to step upon. This plank lay between the scullery which stood out into the yard and a rough hutch made of old planks by some unskilled amateur. There was only just room to pass between these two structures. Beyond the scullery stood a privy and an ashpit and inside the hutch a donkey was located in company with some live poultry. There was no back passage; therefore to reach the street the donkey must pass through the living-room of the house. The manure from the donkey hutch and the contents of the ashpit and privy must likewise be taken through the house, but to judge by the accumulation of dirt the scavengers do not pass here very often. The rent paid for this house is 2s. a week and it is not worth more. If nothing can be done for human beings certainly the Society for the Prevention of Cruelty to Animals might interfere on behalf of the donkey. Nor is this a solitary case, for in another little house close at hand a pony is kept in a similar manner and the yard where it lives is full of fæcal matter. There is by the street door a partition wall which screens off a bed from the entrance, but this is now crumbling to pieces and threatens to fall on the bed. The inmates tried to sleep in the scullery behind this one room, but they found that there were large holes in the ceiling which let the rain through.

Entering a street in this neighbourhood where there had

been several cases of typhoid fever, I looked into a house where one of the inhabitants had recently recovered from this disease. This house was exceptionally clean; everything was tidy, bright, and well kept; the yard also was well swept, but here was an ashpit and privy combined and also an open untrapped drain which discharged sewer air within seven feet of the bottom of the bed where the person who had suffered from typhoid fever was in the habit of sleeping. Then, immediately behind the wall of the yard there is a large dairy and piggery from whence bad odours were wafted into the house. It was no easy matter to gain access to this dairy nor could I wonder at the care with which the doors were locked considering the state of things which was revealed when once I got inside. At the time of my visit there were no less than thirty-two cows kept in this yard. Right against the wall which separated the small backyard of the house where there had been a case of typhoid fever, a gigantic manure-heap rose to a height of about seven feet. Of course, the part that rested against the wall was the highest. In length the dungheap must have measured some thirty feet and fifteen feet in width, and it extended to the wall of the yards of other houses besides the one mentioned. Against these yard walls there was also a shed where nine pigs and some cows were kept together. One cow standing aside in a corner was ill and had bandages round its leg. In a small separate shed, in another part of the yard, I heard a cow moaning piteously. Looking through an opening between the boards that formed the side of this shed I saw a copious suppuration coming from the cow's eye. In the other sheds the cows were so closely packed that they could not lie down without touching each other. No spot in these sheds or in the yard was free from the actual presence of manure or the splashings of manure. It would be impossible for any person to keep himself clean in such a place and no attendant in this yard could be in a fit condition to milk cows or to touch milk cans. Milk ought not to be allowed to remain anywhere near such overcrowded and badly kept cattle-sheds, yet this is where the cows are milked and the milk-cans washed. For this latter purpose there is in about the centre of the yard a stone trough poised over liquid manure and within two or three feet of a grid which leads down to the sewer. The ground worn away all round this grid has been so hollowed out as to form a sort of moat always full of liquid manure. This entrance to the drain is untrapped and it does not drain the yard properly because it is higher than a part of the surrounding ground. On the other hand, it discharges sewer air upon the water trough. In consequence of the stagnation of manure there was a very pungent smell of ammonia. The yard has neither cement nor concrete. There is nothing to prevent the manure sinking into and fouling the subsoil. No wonder that there were several cases of typhoid fever in the street that runs behind this yard.

The condition of the ashpits and privies combined is in some of the houses most revolting. It sometimes happens that they are quite unapproachable and it is scarcely surprising that the inhabitants prefer to soil their back yards than to venture into their privies. It often also happens that the open and unprotected privy is immediately outside and under a bedroom window. The drains which carry away the rain-water from the back yards are sometimes untrapped and thus simply ventilate the sewer into this confined space and this within a few feet of the windows. Many of the houses are in a dilapidated condition, and I noticed that some were tied up with iron stays to prevent them from falling into the streets.

In the North Queen-street district I came across yet another dairy which was combined with a bakery. Passing through the baker's shop and entering the yard behind the first object that attracted my attention was a big wooden cask or tub full of water. This water came direct from the main and should therefore be clean, but the cask was so placed that it must also receive rain-water from a temporary zinc roof placed over a cowshed. Further, this water, being uncovered, could absorb the effluvia given off by the surrounding manure and by the drain which an inefficient bell-trap failed to intercept. A part of the yard was only rendered accessible by planks of wood, such was its sloppy condition. The bakery faced a cowshed. A cat from the stables was playing among the flour. At the end of this compartment was the oven. Behind the oven, but placed right against the wall of the oven, stands the water-closet. This closet is so badly jointed that the water comes out from under the pan each time that it is flushed and saturates the subsoil under, and the wall of, the baking oven. This juxtaposition of a leaking closet and of bread-baking is, to say the least of it, not appetising; but within a few feet of the oven there are cows and the mess cows make, and above both the bakery and the cows there are some bedrooms. In such cramped premises as these it is impossible to prevent the effluvia from the cowsheds entering the bakehouse, to say nothing of the water from the leaking closet which is heated and evaporated by the baking oven.

A private house in this neighbourhood rented at 4*s.* a week was pointed out to me because its inmates had suffered a good deal of sickness, scarlet fever, measles, &c. Here, in the back yard, measuring about 10 ft. by 5 ft., I found that the privy was only separated from the scullery by a wall four and a half inches thick and that it stood nine inches higher than the scullery floor. By the privy and forming part of it was an open ashpit full of disgusting filth. The rain keeps this filth in a constant state of moisture, so that the excremental matter percolates through the rotting wall of the scullery, and yet against this wall there are shelves where cooking utensils are placed. On the morning of my visit some potatoes, ready peeled for cooking, were piled up against that part of the wall which was permeated with the moisture from the privy. When it rains the amount of water coming through the wall from the privy and into the scullery is much greater, and the scullery is only separated from the living-room by a door which generally remains open.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

THE annual meeting of the Manchester Royal Infirmary was held on the 12th inst. The chairman of the board of management, Mr. E. S. Heywood, was able to report that "financially the infirmary was quite sound," and the convalescent hospital and the Cheadle asylum, its two great dependencies, were in a satisfactory condition. At the latter two new wings have been completed and further extensions will shortly have to be made. He paid a touching tribute to the memory of the late Professor Lund and spoke of the proposed scheme for the sale of a large portion of the land round the infirmary and the building of another hospital as requiring the sanction of the corporation and likewise of the trustees. This scheme, which has not been really laid before the medical staff, is disapproved by some of its members, and Dr. Harris moved an amendment to the report so far as the proposed scheme is concerned. On Jan. 11th, 1897, it was decided by the trustees to rebuild the infirmary on the present site and this decision has not been rescinded. Nothing, however, has been done in face of the determined opposition of the corporation. If the suggested scheme is adopted the infirmary, Dr. Harris said, would retain a portion of land too small to provide the whole accommodation required for patients but yet too large for the requirements of an emergency, accident, and out-patient hospital. "If they decided to go elsewhere for the main portion of the hospital, they ought," he said, "as trustees, to sell the whole of the site and with the money so obtained build and endow the new hospital elsewhere." He also spoke of the pavilion and block systems for hospitals and was satisfied that the former was "an ideal of pre-antiseptic days" and that a non-pavilion hospital could give all the requirements wanted and be perfectly sanitary. Mr. G. A. Wright seconded the amendment, which was supported by Mr. Hardie, who has given much attention to hospital construction. The long discussion that took place shows that there is much difference of opinion as to what ought to be done and in the end Dr. Harris withdrew his amendment as it was agreed to add a sentence to the report to the effect that the scheme would be submitted to a special meeting of the trustees as soon as possible. Letters appeared in yesterday's papers from Dr. Leech and Dr. Judson Bury taking exception to the action of Dr. Harris in moving his amendment without consulting the medical board and also criticising his views. So the matter stands for the present. In my opinion it would be better to

sell the whole of the site and build elsewhere on a plot large enough for a pavilion hospital if that is thought best—and it certainly gives more light, easier ventilation, and spreads the sick and injured over a larger area than the block plan—both in the interests of the city and of the infirmary. The scheme of the "sixes," the name given to the joint committee of the corporation and the infirmary board, is an objectionable compromise that would spoil the finest site in the city, leave the present infirmary cramped within its narrowest bounds, too large and yet too small—a shabby monument of an incomplete and unsatisfactory scheme, wasteful of the money both of the corporation and the infirmary, wasteful as to administration, and wasteful of the time and energies both of students and of hospital staff.

The Position of a Medical Officer of Health.

A case was decided at the Manchester Assizes on the 11th inst. by Mr. Justice Bruce which has some interest to medical officers of health. An action was brought by a butcher against the corporation of Rochdale for damages on account of trespass by the medical officer of health for the borough and a meat inspector, who condemned some meat the plaintiff had exposed as unfit for food and ordered it to be destroyed, the case not being taken before the justices. There was the usual discrepancy of evidence, the plaintiff and various experts saying it was good against the opinion of the medical officer, the inspector, and a veterinary surgeon. The medical officer stated that the case was not taken before the justices as he wished to do the plaintiff as little injury as possible and that the latter consented to its removal and destruction. Counsel for the corporation submitted that the medical officer was not a servant of the corporation, the appointment being compulsory under the Public Health Act, and that the corporation were not liable therefore for what he did. The jury found for the plaintiff and gave him £50 damages, subject to the decision of the point of law. The question raised subsequently came on for argument and the judge now gave his decision. He said that neither under the local Acts in force at Rochdale nor under the Public Health Act, 1875, had either of the officers in question any authority to destroy meat without an order of the justices, and the question arose as to whether the corporation was liable for the acts of the officers. In the resolution of the corporation appointing the medical officer of health it was stated that in any case which he might think desirable he should himself inspect any animal or meat exposed for sale which was deemed to be diseased or unsound. If he found such was the case he could give instructions for the animal or the meat to be destroyed. The power to appoint the medical officer was vested in the corporation, who were authorised to fix and pay his salary and who had conferred upon them power of removal. So far as he had ascertained there was no reservation of those powers, and the appointment was in that respect unlike the power conferred by the Public Health Act in cases where the salary of the medical officer was paid partly out of money voted by Parliament and where the power to appoint and remove was subject to the control of the Local Government Board." He thought that in this case the medical officer, and of course the inspector, must be regarded as the servants of the corporation. He considered that the medical officer was acting within the scope of his duties, and though he had neglected to take the proper steps—as to bringing the case before the justices—"the irregularity was in the course and manner of doing something they were authorised to do." Judgment was given for the plaintiff. There seems to have been no doubt of the accuracy of the view held by Dr. Henry, who has had eighteen years' experience as medical officer of health for Rochdale, as to the condition of the meat, but the moral may be drawn that it is not well to give the vendor the option of going before a justice or of having the meat destroyed without that proceeding in order to shield him from exposure.

Death from Lead Poisoning.

On the 11th inst. Mr. Smelt, the city coroner, held an inquest on the body of a man, aged forty-seven years, who had worked as a glass-cutter for a firm in Ancoats. It seems that some time ago he showed symptoms of lead poisoning and was advised to take certain precautions. He was ill but went to his work on the 5th inst., became worse and was removed to the Ancoats Hospital, but after receiving attention there was taken home and died on the 6th inst. His work included putting the finishing polish on glass with putty powder which contains lead. A certificate of death from epilepsy had been given by a medical man and the factory inspector had only accidentally learned that he had lead poisoning, to which Dr. Reynolds stated his death was due. The coroner said that the certificate given to a certain extent was incorrect, as it did not suggest that lead poisoning had brought on the epilepsy or had anything to do with the death. "He hoped that medical men would be more careful in such cases, so as to obviate the risk of deaths of this nature being passed over without inquiry."

The late Professor Lund.

In the appreciative sketch of the career of the late Professor Lund which appeared in THE LANCET of Feb. 12th it is noted that his funeral was largely attended. It may perhaps be allowable to say that there was evidenced a special desire to show respect to his memory on the part of the governing body of the infirmary where his chief surgical work was done and where his demonstrations in the early days of antiseptic surgery did so much to forward its progress, by his colleagues on the staff of the infirmary, by the Owens College and the various hospitals and societies of Manchester and Salford, and by many of the practitioners of the large district in which he was known and respected.

Feb. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Professor Sir W. T. Gairdner on the Prevention of Disease.

THE Senate of the University of Glasgow, following the precedent of former years, has again during the present session arranged a series of lectures open to the public, and it was as a contributor to this series that Professor Sir William Gairdner addressed a large audience on the 14th inst. on the Prevention of Disease. At the commencement of his lecture he reminded his audience that for ten years he had been medical officer of health for the city and expressed his belief that no one could adequately teach curative medicine without a knowledge of preventive medicine. The prevention of disease was no doubt in one sense included in the subject of public health, but it was also in a special sense within the department of a professor of medicine, because the prevention of disease in the family, in the individual, and among groups of individual persons was as much a part of the duty of the practitioner as was the cure of disease when this actually existed. The close association between prevention and cure was conspicuously illustrated by such a disease as scurvy, and this further emphasised the importance of the investigation of the causes of diseases, a lesson which was also pressed home by the great cholera epidemic of 1832. Sir William Gairdner spoke in high terms of the work of such sanitary reformers as Sir Edwin Chadwick, Lord Shaftesbury, Lord Playfair, and Dr. Southwood Smith, who initiated the great movement for improving the health of towns. He considered, however, that the first application of the clear light of science to the history of epidemic or other diseases was the invention of the mode of expressing the death-rate by the late Dr. Farr, which furnished an accurate foundation upon which the relative freedom from disease of different places may be calculated on the basis of the incidence of the deaths in the different places. Dr. Farr found that there were only three districts in England in which the death-rate was as low as 15 per 1000; that in fourteen it was 16 per 1000; and that in forty-seven it was 17 per 1000. He therefore found that to get a sufficiently broad basis for his statement he must take 17 per 1000. As showing the improvement that had taken place Sir William Gairdner mentioned the fact that Dr. Tatham, the present head of the Statistical Department, had found that he could operate with a death-rate of 15 per 1000, and that one-sixth of the population of England in 263 districts had a death-rate below 15 per 1000 in the period 1881-90, and that fully a quarter of the population was below the standard of Dr. Farr. With regard to the reduction of the death-rate in Glasgow Sir William Gairdner referred his audience to Dr. Russell's admirable book on "The Evolution of the Function of the Public Health Administration," and remarked that whereas in his own day the death-rate reached as a rule 30 per 1000

it had now shrunk to about 20 per 1000. This gain was largely due to increased cleanliness, and whilst much yet remained to be done on the old lines—and in particular in the direction of preventing the occupation of houses totally unfit for habitation—the notification of infectious diseases and the immunisation principle were amongst the newer apparatus of sanitary science, and these and other developments of the more recent pathology might be expected to furnish still further triumphs. At the close of his lecture Sir William Gairdner read to his audience, the text of a memorandum which he had submitted to the University Court in connexion with the teaching of Public Health in the university. In this the urgent necessity of the foundation of a professorship and laboratory is insisted on and the opportunity at present afforded by the vacancy in the chair of Forensic Medicine is pointed out. The present arrangements for touching the subject in the university are condemned as most incomplete and most unsatisfactory. Another suggestion which has been made is to transfer the endowment of the present chair of Forensic Medicine to a new chair of Public Health and to allow the former subject to be taught by a lecturer. Certainly it is absurd to pay a sum of £600 per annum to a chair the duties of which may apparently be discharged by the delivery of fifty lectures to medical students and a few lectures to students of law. All this could be efficiently undertaken by a lecturer at a much smaller salary, but the proposal above alluded to involves legal difficulties and possibly may suggest questions as to whether other endowments are wisely spent in the payment of professors whose sole duty seems to be the annual delivery of a statutory number of dictation lectures.

Royal Lunatic Asylum, Aberdeen.

The ninety-seventh annual report—for 1897—shows that the number of patients in this asylum is now 765, which closely approaches the limit of 792 fixed by the scheme of increased accommodation sanctioned in 1892 The extension of the heating system to Elmhill House (for patients of the middle and wealthier classes) and the new laundry, together with heating and ventilation of the new hospital, have cost nearly £3000; the electric light for the whole buildings has cost £5000; and £2000 extra were spent in a basement floor for the new hospital. The laundry and work-room block now in course of construction (including additional day-room and dormitory accommodation for female patients) will cost between £8000 and £9000 before it is finished. Cornhill-road has been diverted at an expense of £1500 and the outlay for additions and improvements at Daviot Branch Asylum has been upwards of £5000. It is recommended that two wings (for sixty patients) be erected in the rear of the new hospital at a cost of about £8000 and that some detached buildings be converted into good dayrooms and dormitories for sixty patients at a probable expense of £1500. As soon as these works are finished the reconstruction of the front buildings will be proceeded with. Altogether it is said that in addition to the expenditure of £50,000 sanctioned by the managers in 1892 there has been, or will be, required a further outlay to the extent of about £35,000. It is proposed to borrow the money on the security of the assets, the debt to be paid off within thirty years. It has been arranged to acquire on favourable terms seventy-six acres of additional land at Hilton and Cornhill, Aberdeen, for the healthy employment of inmates at agricultural work. The income for the year, exclusive of the sum credited to new hospital and reconstruction account, amounted to £27,504 and the expenditure, including the sum of £2000 reserved for deterioration, to £26,397. Of the surplus of £3107, £2000 have thus been carried to a reserve for depreciation and £1107 applied towards the cost of the extension and improvements scheme. There were admitted last year 233 patients, the discharges numbered 142 and the deaths 56. The total number of cases under treatment was 969. The rate of recovery, says Dr. W. Reid, physician superintendent, compares favourably with the average of former years.

Proposed New Lunatic Asylum, Aberdeen.

In connexion with the scheme to build a new poorhouse to take the place of the two existing institutions of the kind in Aberdeen the General Lunacy Board for Scotland has indicated that it does not approve of lunatic and ordinary paupers being accommodated in the same establishment and has suggested that the territory of Aberdeen Parish Council be formed into a lunacy district. The works committee of the parish council accordingly recommend that a new district asylum be built near Aberdeen for 400 patients at an expense, including land, of £64,000, that the West Poorhouse and ground on the east side of King-street be sold, and that additions and alterations be made at the East Poorhouse so as to accommodate all the in-door ordinary poor of the city. These alterations would cost £3764, which, after giving credit for £23,419 4*s.* as the value of the property to be sold, would leave the net first cost of the new scheme at £44,344 16*s.*

Feb. 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Cork-street Fever Hospital, Dublin.

AT a meeting of the Managing Committee of this hospital held on the 10th inst. the registrar reported that during the month of January 227 cases had been admitted, the bulk of the patients being sufferers from scarlet fever. Enteric fever had been less prevalent than during the corresponding period of recent years but of a more severe type, while during the latter half of the month influenza and influenza complicated with pneumonia were common. Typhus fever has again disappeared from Dublin. In reference to the new convalescent house at Beneaven it is satisfactory to note an increase in the number of those who avail themselves of its advantages before returning to their homes. All the beds are occupied at present.

Death of Mr. T. Hamilton Burke.

A well-known and much esteemed member of the medical profession in Dublin—Mr. T. Hamilton Burke—has just passed away at an advanced age. For more than fifty years his name appeared on the roll of Fellows of the Royal College of Surgeons in Ireland, where his personality was well known. Commencing his career as medical officer to the Dispensary and Hospital at Westport he subsequently became one of the medical inspectors under the Local Government Board and filled that position until he retired some years ago as senior medical officer of that service. His funeral, which was largely attended, took place on the 11th inst.

Sudden Death of Two Medical Practitioners.

Dr. P. L. Ahern, of Milford, county Cork, was recently attacked with a malignant form of typhoid fever, to which he quickly succumbed, his death having taken place on the 10th inst. A telegram announcing his sudden and grave illness was despatched to his brother, Mr. James Ahern, of Fermoy, and was received by the latter during his convalescence from severe rheumatic fever. In his weakened condition the shock was too much for him and he died at once from syncope. Both medical men were young but well known and much esteemed in the south of Ireland.

The Royal Medical Benevolent Fund.

The committee of the Belfast and District Branch of the Royal Medical Benevolent Fund have made a very strong appeal to the medical profession in Belfast through the local secretary, Dr. John McCaw, basing their request for further subscribers largely on the fact that last year the Central Committee of the society gave £90 to the widows and orphans of medical men of the local branch and that further aid is urgently needed. It is hoped that this request will be liberally responded to.

Belfast Asylum.

From the report of the Inspector of Lunatics, Dr. G. P. O'Farrell, I learn that although this asylum is calculated to accommodate 400 patients there are now resident in it nearly 700, but as it is likely that the present building will be vacated in a few years the inspector did not feel justified, notwithstanding this great overcrowding, in urging any addition which would entail a large expenditure. The capitation cost of maintenance was £22 8*s.* 9*d.* At the meeting of the Governors held on Feb. 14th the secretary of the Belfast Nurses' Home wrote protesting against the new fever hospital being built at Purdysburn and appealing to have it placed instead in the present lunatic asylum grounds within safe distance of the New Royal Victoria Hospital. By such an arrangement the probationers of the New Royal Victoria Hospital could have a fixed period of training in the nursing

of infectious diseases. At present all the nurses trained in the Royal Hospital get their experience of infectious diseases in the fever block there and the public who afterwards employed them had benefited by this training; but were the new city fever hospital built at Purdysburn, the secretary of the Nurses' Home says, such an arrangement would be manifestly impossible. The chairman (Professor Cuming, M.D. R.U.I) said this subject was a matter for the Corporation and the Asylum Board could not hear it.

Medical Men and Clerical Work.

At a meeting of the Belfast board of guardians held on Feb. 8th a statement was read on behalf of the resident medical staff of the Infirmary protesting against the imposition made upon them of clerical duties formerly performed by an inmate of the establishment. As a result of the new system two of the house surgeons were engaged at the books up to 2 A.M. on Sunday, Feb. 6th, all day on Sunday until 1 A.M. on Monday, and on the Monday from 10 A.M. till 6 P.M., and afterwards from 10 P.M. until 2 A.M. on Tuesday morning, yet the books for the current week were not properly opened. Admissions, discharges, and deaths were in arrears, and one house surgeon was left to attend to 1300 patients in the infirmary and his whole time would be fully occupied by attending to admissions without paying a single visit to patients in the wards. It seems that the clerk, who had been removed from his former post to other duties, although he worked from ten to fourteen hours daily (Sundays included), could only do a portion of the work, the important items being always performed by the medical staff. The resident staff protest against the new rule that they must personally enter in the weekly return and diet bill every entry required for each patient. The whole matter is to be considered in committee at the next meeting of the board.

Typhoid Fever in Kilmallock Union.

A serious outbreak of typhoid fever has occurred in Kilmallock Union. Dr. Browne, Local Government Board inspector, was present at a meeting of the guardians and stated that he found it very difficult to trace its source. He, however, believed that certain creameries were instrumental in spreading it. He recommended that the creamery milk should be boiled before being used and he urged the removal to hospital of patients suffering from the disease. In that connexion he remarked that the ambulance vans were not as comfortable as they might be. He also strongly recommended that the Infectious Diseases (Notification) Act, 1889, and the Infectious Diseases (Prevention) Act, 1890, should be put into force in the union. It was stated that 40 cases had occurred in the district since June last.

Dr. T. A. Kelleher has been appointed assistant house surgeon to the Cork South Infirmary.

Feb. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Adjourned Discussion on Blistering.

AT the meeting of the Academy of Medicine held on Feb. 8th M. Ferrand gave an account of the work by which he had tried to reintroduce blisters. That which we have to guard against is not the use of blistering but its abuse. The indications for blisters are very plain in certain morbid conditions where simple rubefacients are insufficient. Blistering must on no account be used so as to cause a wound of the skin by which certain infectious germs may enter, but a blister properly applied produces all its effects without any wound and very simple aseptic measures are sufficient to protect the place if by any chance the epithelium is broken. The pain caused by a blister can be easily alleviated and the general depression which accompanies its use very soon disappears. The vascular alterations produced by cantharides are not necessarily dangerous of themselves, but, in fact, they are of great use in the treatment of certain diseases. As for the renal affections which sometimes result from the absorption of cantharides, even if they do occur and increase from a simple catarrh to nephritis extending to the vessels and glomeruli, it is easy to avoid this accident by limiting the duration of the application, by using small blisters and not applying them too often. Cantharides sometimes has a useful action upon the kidney; in certain forms of nephritis it is valuable and it is allowed by everyone at the present time that if cantharides ought to be prescribed in some cases of interstitial nephritis it can also be given with advantage in the parenchymatous variety. The indications for a blister vary according to the site, the kind, and the type of the disease. They are of great use in typical forms of catarrh of the serous and mucous membranes. In conclusion, M. Ferrand pointed out that blisters exercise a good effect upon nutrition and he agreed with M. Robin's opinion that they produce a real hyperleucocytosis. Vesication also has a good effect in the spasmodic vomiting of certain convulsive affections. M. Huchard gave the meeting a short historical account of vesication. It was invented some 2000 years ago by Asclepiades of Bithynia, but since his time it has been greatly abused. Defective asepticism was responsible for a great number of the accidents following this method of treatment. He reminded the Academy of the case of a child, eleven years of age, whom Dr. Duquet had seen, who had been blistered 110 times for pleurisy. As a result the patient died from empyema and nephritis. It was especially in the country that this sort of abuse flourished and practitioners ought to make themselves thoroughly acquainted with the risk to which they were exposing their patients by the use of cantharides without special precautions.

The Surgery of the Stomach.

At the same meeting of the Academy M. Doyen gave his experience with regard to the result of 146 cases of surgical operations upon the stomach. Of these, 66 were malignant and 80 non-malignant. There were 22 deaths in all and 20 of these were in cases of cancer. Of his last 55 cases 50 were successful, 5 of the patients being *in extremis* when they came under treatment. Gastro-enterostomy is a proper treatment for dilatation and ulcer with or without hæmatemesis. Roux's method is the only satisfactory one; it avoids all danger of infecting the peritoneum. M. Doyen makes use of the lever compression forceps which were originally made for compressing the pedicle of ovarian tumours. Recovery is undoubted in cases of serious dyspepsia or where there is ulceration without pyloric stenosis. The patients eat like everybody else and are quite unaware that they have a stomach. The operation is also of great use in patients who apparently suffer from intestinal dyspepsia; hæmatemesis ceases after its performance and the biliary function is re-established.

Bequests.

Professor Tarnier by his will has left to the Academy of Medicine a yearly income of 5000 francs, 3000 of which are assigned for a prize to be given annually, which will be called the Prix Tarnier and which is to be given for the best work on a subject in obstetrics and gynæcology. The prize will be given in one sum and will be allotted in the first year for obstetrics and in the second year for gynæcology. The Academy can make what use of the remaining 2000 francs of income it pleases.—Madame Emile Durand has just made a donation to the Pasteur Institute of a sum of 50,000 francs to promote the study of tuberculosis.

The Case of M. Heim.

The Council of the University, with the Minister of Public Instruction as president, has just delivered judgment in the case of the appeal entered by M. Heim, an assistant professor in the Faculty of Medicine, who was accused of unlawful possession of certain apparatus and of neglect of his duties and who was sentenced to suspension from his office. The Disciplinary Committee which heard the appeal first reported to the Council that the following were the heads of the accusations against M. Heim: (1) that he had been guilty of grave neglect of his duties, and (2) that when a candidate for the post of chef des travaux in the natural history faculty he had handed in a scientific treatise which contained sundry errors. These, then, are the conditions under which M. Heim, with the assistance of his counsel, Maitre Millerand, appealed to the Superior Council. By 33 votes to 14 the Council mitigated the original sentence—that is to say, reduced the suspension to the period of two years with loss of salary.

The Treatment of Elephantiasis by the x Rays.

On Feb. 14th M. Mascart showed to the Academy of Sciences, on behalf of Dr. Sorel and Professor Soret, of Havre, a series of photographs of the hand of a patient who had been suffering from the disfiguring affection known as elephantiasis. This patient had got well solely by the use of the x rays. This result had been obtained after three sittings of a few minutes' duration. Upon the application of the President the clinical history and notes of the case were remitted for consideration to the Section of Medicine.

Influenza in Paris.

The statistics for the week ending Feb. 13th show that there were 50 deaths from influenza out of a total of 1220. In the preceding week the mortality attributed to influenza was 36. These figures, however, must not be taken as showing an increase in the epidemic, for the total number of deaths is almost the same in both weeks—namely, 1214 and 1220. The mortality from respiratory affections was 220 last week and 260 in the week preceding. A number of medical men are wont nowadays to attribute to influenza deaths which they would formerly have ascribed to acute bronchitis or pneumonia—a fact which is quite sufficient to explain the rise in influenza mortality. For a just estimate of the value of these figures it is quite sufficient to remember that at the height of the epidemic in 1890—when the total weekly mortality was 2334—the municipal statistics only gave 22 deaths as due to influenza, so that judging by the figures the present epidemic of influenza is twice as serious as that of 1890.

Feb. 16th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

A Noble Initiative.

FEW contemporary Italians have deserved better at the hands of nature students than Pietro Blaserna, Professor of Experimental Physics in the Roman University and author (*inter alia*) of masterly treatises on the conservation of force, on the development and duration of induced currents, and on the theory of sound in its relations with music. He has just laid the scientific cause in Italy under yet another obligation the extent and import of which will be apparent to all who know how that cause languishes for want of means. Attached to nearly all the Italian universities are "istituti" supplementary to the regular "faculties," and these, naturally enough, are most numerous in the sphere of inductive research and experimental study. Most of the "istituti" referred to have "gabinetti" (cabinets) or "musei" connected with them for illustrative or practical purposes; but, like nearly everything educational in Italy, they are miserably endowed, lamentably short of *matériel*, and quite behindhand in their representation of contemporary science. One chief cause of this disastrous state of things (always excepting the drain on the revenue for military and naval purposes) is the multitude of universities in the kingdom and the impossibility of equipping all of them adequately. There are no fewer than nineteen such "seats of learning" in Italy and no Minister of Public Instruction has yet been influential enough to reduce their number by half and make the survivors really worthy of the name—"almæ matres," or nursing mothers of the professions. The truth is the provincial, not to say parochial, spirit still dominates the peninsula and islands; still forces the king, for example, to keep on his far too heavy civil list the royal, archducal, or simply ducal residences, many of which he has never seen, and still maintains universities which have long survived all usefulness but that of providing for a multitude of local hangers-on. "In these circumstances," says Professor Blaserna, "it is idle to hope for a speedy improvement," and so on his own account he has started a series of lectures from Feb. 16th to April 6th on his favourite subject (the theory of sound in its relations with music) and will devote the fees paid for admission to augmenting the Government pittance vouchsafed for the "Istituto Fisico" of which he is the director. This private initiative is quite unprecedented in Italy. Bursaries or scholarships, it is true, are not unfrequently founded by enlightened testators; but excepting here and there a savant who has bequeathed his private museum or library "i donatori ad istituti scientifici non sono mai esistiti" (the endowers of scientific institutes have never existed). It is hoped that the truly philanthropic step taken by Professor Blaserna will shame some of Italy's millionaires into providing adequately for their country's studious youth; and meanwhile I hear of more than one attractive holder of a lecturership or university chair expressing his willingness or actual intention to give popular or supplementary courses and from the fees thus earned to reinforce the all too scanty Government allowance in aid of his special subject. Italy it is felt has looked too long and too exclusively to the Government Hercules to lift her out of the rut and "put her on rails" and ought now to try what can be done in the way of "self-help" on the lines so nobly initiated by Professor Blaserna.

The English speaking Practitioner in Italy and the Income-tax.

Your compatriots in medical practice throughout Italy have not yet recovered from their astonishment at Signor Santini's declaration on the 2nd inst. in the Chamber of Deputies that "non pagano la imposta di ricchezza mobile" (they don't pay income-tax)—the fact being, as stated in my last letter,[1] that they pay an inordinately heavy income-tax on a total of annual receipts arbitrarily fixed by the Ricchezza Mobile Office, fixed, that is to say, at a figure generally far above what the leading Italian consultants in the kingdom are assessed at. I may incidentally explain that the said "imposta di ricchezza mobile" (income-tax) is, like well-nigh all Italian institutions, fiscal and other, farmed out, therein perpetuating one of the worst traditions of the Roman Empire. The Government receive the money from the "publicani" to whom they concede its collection, and the "publicani" recoup themselves by what they can collect over and above the sum estimated by the Government as approximately due. More lucrative returns to the Italian treasury than those yielded by English-speaking practitioners are not derived from any other professional class, native or foreign. Yet this arbitrary fixing of amount of income and the heavy exactions made on the strength of it are borne by these practitioners without a murmur, which probably explains Signor Santini's astounding inference that they are not taxed at all! Very different is the conduct of his own compatriots under the same fiscal *régime*. Let me cite one instance, and that one an "instantia prærogativa," as Bacon calls it. Readers of THE LANCET, or indeed the medical world, "ubique gentium," still remember the admirable paper in your columns on "Cavernous Angioma of the Cheek, its Surgical Cure."[2] Its author, Professor E. Bottini, lecturer on Operative Surgery in the University of Pavia, has long been one of the leading consultants in Italy and as such marked out as "fair game" by the "publicani" above referred to. Time after time Professor Bottini has protested against the arbitrary estimate formed of his income and the tax correspondingly levied by these exactors. He has even changed his residence from one part of the kingdom to another in order to escape persecution. And now I read in the public prints the following "dichiarazione" (declaration) issued above his signature:—

DICHIARAZIONE.

Colpito da un reddito di ricchezza mobile che reputo esorbitante, e non avendo ulteriore mezzo di difesa dichiaro: di rinunciare intieramente all'esercizio professionale privato.

In fede.

Sanremo, 9 febbraio, 1898. Prof. ENRICO BOTTINI.

(Struck by a return for income-tax which I hold exorbitant, and having no further means of defence, I declare that I renounce entirely the private exercise of my profession.

In faith.

San Remo, 9th Feb., 1898.) Prof. ENRICO BOTTINI.

Professor Bottini dates from the Italo-French frontier—from a health-resort on the Riviera Ponente, where he may command a non-Italian *clientèle*, while during the summer he may continue his clinical prælections. In this way he may earn sufficient income, relieved in great part from fiscal exactions, and at the same time keep in touch with his Alma Mater. He will not be the first of Italian consultants who have had to defeat what they consider an unjust tax. But the Ricchezza Mobile Office, amid so much recalcitrancy on the part of its compatriots, can look, I repeat, with little favour on Signor Santini and his Bill, which would exclude from Italy the English-speaking medical man, who pays

[1] THE LANCET, Feb. 12th, 1898, p. 473.
[2] THE LANCET, Sept. 20th, 1890, pp. 612-14.

without protest a disproportionately heavy income-tax and who only asks in return to be allowed to practise his profession without let or hindrance.

Feb. 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Cremation in Austria.

ABOUT a year ago the Vienna Medical Society appointed a committee to consider the question of the introduction of cremation into Austria, Professor Hofmann and Professor Gruber being the reporters. At the last meeting of the society Professor Hofmann's report was read by Professor Mauthner. It was to the effect that inhumation is attended by a great many disadvantages and that cremation is to be preferred on hygienic grounds. Decomposition may, however, be accelerated by avoiding metal coffins and by not making the graves too deep. In selecting places for burial grounds the nature of the soil should be taken into consideration. With respect to the æsthetic aspect of the subject Professor Hofmann believed that there was a disagreeable episode at the onset of a cremation when the skin gave way and the fat became strongly heated. Cremation has the advantage of preventing misapplications of dead bodies or portions of them, such as the superstitious use of the fat for making ointments or the turning of the bones to commercial account. Proceeding to the medico-legal side of the question Professor Hofmann said that exhumation by order of a magistrate is of infrequent occurrence and takes places only when poisoning is suspected; he denied that poisons are undiscoverable after a short time and he stated that he had succeeded in recognising cyanide of potassium four months after death in a body which was very much decomposed. He believed that it would be impossible to make cremation compulsory, but he approved of its being made optional when there was no doubt as to the cause of death or when a pathological or chemical examination of the body had been made. Professor Gruber, the second reporter, said that the treatment of bodies in a crematorium is quite unobjectionable. He refuted the bacteriological arguments which have been advanced against burial by proving that a great many infectious germs perish quickly after bodies have been interred. Professor Mauthner proposed the following resolution, which was unanimously adopted: "There are no objectionable features in the cremation of bodies in a modern crematorium, but inhumation is not attended with such disadvantages that cremation is to be regarded as a necessary hygienic reform. Compulsory cremation would present many difficulties and would, moreover, be inadvisable for medico-legal reasons, but there can be no reason for opposing optional cremation after a careful examination of the body."

Cerebral Pressure.

In a pamphlet on the above subject Professor Adamkiewicz has argued, contrary to the views of Professor von Bergmann and other investigators, that living nerve substance may be compressed without injury to its function and that the normal tension of the cerebro-spinal fluid can never surpass physiological limits. At least, a pressure acting on the surface of the living brain does not contract the capillary vessels but causes their dilatation. The source of the cerebro-spinal fluid is the arterial blood and the source of its pressure must be the pressure in the capillary vessels where it is secreted. Nothing else than obstruction to the return of venous blood from the head and general congestion of the venous system can increase the tension of the cerebro-spinal fluid. The circulation in the veins controls the cerebro-spinal fluid and there is a free communication between the cavities containing the fluid and the venous blood in the head. The injection of fluid into the cranial cavity could not increase the pressure in the veins of the neck, even if it had to do with thin-walled veins, for such veins are compressed and closed by external pressure and the result would be that the pressure in the veins of the neck would fall. But if the increased pressure of the injection was to increase the pressure of blood in the veins of the head the emissory veins which are not closed by any external pressure would suffice to carry off the extra blood. Indeed, it is possible to inject the cranial bones from the subdural space by means of a coloured liquid. The venous flow in the veins of the bone has a suction action during inspiration on the fluid in the lymphatic spaces surrounding it. Merely increasing pressure in the cerebro-spinal fluid cannot have any general effect on the cerebral pressure.

University Intelligence.

By order of the Minister for Public Instruction the winter half-year, which ought to end in Easter week, was closed on Feb. 7th in consequence of the riots that have taken place both in the aula and the class-rooms of the University. When the Government prohibited the display of coloured emblems (the so-called Farbenverbot) at the University of Prague, in which city there had been many conflicts between the German and the Slav population, the German students in Vienna, following the example of those in Prague, refused to attend any classes.

Feb. 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Victorian Branch of the British Medical Association.

AT the annual meeting of the Victorian Branch of the British Medical Association the following office-bearers were elected for the ensuing year:—President: Dr. R. L. McAdam. Vice-President: Dr. A. L. Kenny. Hon. treasurer: Dr. J. R. M. Thomson. Hon. librarian: Dr. F. Meyer. Hon. secretary: Dr. W. Kent Hughes. Editor: Dr. J. W. Springthorpe. Members of council: Dr. A. V. M. Anderson, Dr. F. D. Bird, Mr. F. M. Harricks, Dr. H. F. Lawrence, Dr. M. U. O'Sullivan, Dr. W. Snowball, Dr. R. R. Stawell, Mr. R. A. Stirling, and Dr. G. A. Syme. In his address the retiring President, Dr. R. A. Stirling, commented on the present conditions in the profession. The subject of the hour was serum-therapy, in respect of which Australia was lagging behind other countries. He strongly advocated the establishment of an institute of preventive medicine in Melbourne which would secure to the profession and their patients a proper supply of the various antitoxins and other antidotes to bacterial disease. To in some degree check the spread of tuberculous disease the localisation of cases by registration ought to be ensured and the establishment of special hospitals for all tuberculous ailments must be one of the works of the immediate future. Reference was made to the use of escharotics by quacks for cancer. The operation of straightening the deformity of Pott's disease of the spine, advocated by Dr. Chipault and Dr. Calot, was discussed and a case quoted in which it had been successfully undertaken by the speaker.

Case of Hydatid of the Brain.

In the December number of the *Inter-colonial Medical Journal* Dr. J. A. Hawkes records an interesting case of operation on a hydatid of the brain which unfortunately ended fatally as most of the cases so far operated on have done. The patient, a girl aged five years, had complained of headache for some months; in April she had vomiting and in May she had twitching of the face, extending in July to the right hand. She had never had convulsive attacks. When seen she had paresis of the right side of the face. The tongue was pushed to the right. The reflexes were exaggerated and there was cutaneous hyperæsthesia; the pupils were normal and also the special senses. On moving the right arm or when excited she had large, jerky tremors in it. The right leg was rigidly extended. The symptoms varied a good deal in intensity. The skull was trephined over the left Rolandic area over the arm centre and the hydatid discovered and removed, ten ounces of fluid being evacuated. A small drainage-tube was introduced and the bone replaced. The patient did well for three days when the temperature suddenly rose to 104° F. and she died with marked signs of cerebral irritation. Post mortem it was found that the cavity, in which the cyst had been, opened into the lateral ventricle and there were no evidences of inflammation. Dr. Hawkes suggests that the sudden relief of the tension affects the cerebral circulation in these cases and that it might be well not to drain but to completely close the wound.

Jan. 8th.

Obituary.

LEONARD REMFRY, M.A., M.D., B.C. CANTAB., M.R.C.P. LOND.,

ASSISTANT OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL AND OBSTETRIC PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL.

WE regret to announce the death of Dr. Leonard Remfry, the assistant obstetric physician at St. George's Hospital, which occurred suddenly at his house in Great Cumberland-place early on the morning of last Friday, Feb. 11th. Dr. Remfry had been the subject of epilepsy for several years, and the cause of his sad death was epileptic coma.

Dr. Leonard Remfry was born in 1860 and educated at Christ's College, Cambridge, where he graduated in arts and medicine, completing his medical career at St. George's Hospital. At St. George's Hospital he was soon recognised as a capable and diligent student and was in due time elected to fill the following junior appointments—assistant medical registrar, house physician, anæsthetist, and resident obstetric physician. Upon the appointment of Dr. Champneys to the vacant post of obstetric physician at St. Bartholomew's Hospital Dr. Remfry was elected assistant obstetric physician to St. George's Hospital, which post, as well as that of obstetric physician to the Great Northern Central Hospital, he held at the time of his death. Thus it will be seen that at the comparatively early age of thirty-seven years Dr. Remfry had already put behind him a good record of practical work and there is no doubt that his early decease has deprived the profession of one of the most promising of its younger exponents of the science and practice of midwifery. In his special branch of medicine Dr. Remfry was a sound and careful practitioner. That he was a diligent and accurate observer is shown by his few but valuable papers published in the Transactions of the Obstetrical, Pathological, and Clinical Societies and in our columns. He was indefatigable in his attention to his hospital duties both at St. George's Hospital and at the Great Northern Central Hospital, though the onerous work must at times during the last year or two of his life have been performed under circumstances of disadvantage which might well have excused some relaxation. As a teacher of obstetrics Dr. Remfry was much appreciated by his pupils at St. George's Hospital, as his teaching was always simple, lucid, and practical, while his manner was one which was calculated to assist the student to do his best. For some years before his appointment as assistant obstetric physician to St. George's Hospital he held a well-attended and successful class in midwifery and gynæcology, and it may be in consequence of the experience thus gained in "coaching" that his subsequent teaching proved so useful and acceptable to the students.

In addition to his attainments as an obstetric physician Dr. Remfry was a musician of no mean order, the author of one or two popular waltzes and marches, and a fine instrumental performer as well. His sudden and early death leaves a gap in the social world of St. George's Hospital, where his sterling good nature and kind-heartedness were as much appreciated as his more striking social qualities.

EZEKIEL ROUSE, M.R.C.S. ENG., L.R.C.P., L.M. EDIN.

MR. EZEKIEL ROUSE, who died at Bideford on Feb. 10th, was well known in North Devon and was in his fifty-seventh year at the time of his death. Mr. Rouse was born at Tetcott, where his father was rector. He received his medical education at Edinburgh, taking the qualifications of M.R.C.S. Eng. and L.R.C.P. and L.M. Edin. in 1871. Mr. Rouse had been in Australia and also served through the Maori War. For many years he had practised at Bideford, where he was honorary surgeon to the Bideford Infirmary, and also held the appointments of medical officer of health of Bideford Rural District, medical officer of health of Northam Urban District, and medical officer of health to the Port Sanitary Authority. Mr. Rouse was a prominent Freemason and took a great interest in the volunteer movement, being one of the surgeons to the 4th Devon Rifle Volunteers and a recipient of the volunteer long service medal. The deceased leaves a widow and two children, for whom much sympathy is felt.

FREDERICK WOODCOCK DOWKER, M.R.C.S. ENG., L.M., L.S.A.

THE death of Mr. Dowker, of Helmsley, in the sixty-third year of his age, is the cause of the loss to Yorkshire of a medical practitioner of the old school who was held in the greatest respect alike by the public and his fellow practitioners. Mr. Dowker was educated at Christ's Hospital, afterwards walking the wards of St. Bartholomew's Hospital. After gaining his diploma he was for a short time at Crewe and afterwards he was assistant to Dr. Ness at Helmsley, finally settling in that town, where he continued to practise until failing health compelled him to transfer the active duties to a partner. He was until recently medical officer for the Oswaldkirk district of the Helmsley Union and also medical officer for the sanitary area. His practice was marked by great success and his name is held in esteem for his expertness as an operator and his skill in grasping the intricacies of a difficult case. He is survived by a widow and three members of his family.

JOSEPH HUNT, M.R.C.S. ENG.

THE death on Jan. 8th of Mr. Hunt was regretted by a large circle of friends in volunteer and private circles in Birmingham. Educated at Queen's College, Birmingham, Mr. Hunt afterwards became resident surgeon at the Birminham General Dispensary, subsequently engaging in private practice in the town. In 1880 he was appointed one of the honorary surgeons to the Children's Hospital, a post which he held for twelve years. In 1881 he joined the volunteers as surgeon and the following year was transferred to the combatant ranks as lieutenant. In 1887 he was promoted to the rank of captain and retired from the service last year with the honorary rank of major. As a practitioner Mr. Hunt commanded the confidence of his patients and enjoyed a good practice until failing health disabled him from pursuing his more active duties. As an officer he was genial and popular, having many firm friends. The death of his wife soon after their marriage left a blank in his life which was never completely filled—a loss for which he endeavoured to gain consolation by an energetic and stirring life.

Medical News.

UNIVERSITY OF LONDON.—The following candidates were successful at the Preliminary Scientific Examination in January:—

Entire Examination.—First Division: Beatrice Mary Kidd, Westfield College and Bedford College, London; Harold Charles Corry Mann, Dulwich College and Guy's Hospital; and Herbert Victor Wenham, St. Bartholomew's Hospital. *Second Division:* Walter Ball, University College, Liverpool, and Alwyne Institute; Frederick Michael Bishop, St. Bartholomew's Hospital; Margaret Lucy Augusta Boileau, University College and University Tutorial College; John Hay Burgess, Royal College of Surgeons, Edinburgh, and University Tutorial College; Ronald Edgar French, Dulwich College; Arthur Augustus Russell Green, Mason College; Harold Axel Haig, Birkbeck Institute and private study; Osburne Ievers, St. Mary's Hospital; George Edward James Antoine Robinson, Dublin University and University College; John Latham Rushton, private study and University Tutorial College; Ernest William Strange, Epsom College and Guy's Hospital; Louis Leopold Arthur William Thomson, St. Mary's Hospital, and Harold Tipping, Guy's Hospital.

Chemistry and Experimental Physics.—†Mary Cecilia Bell, Ladies' College, Cheltenham, and University Tutorial College; Arthur Carnarvon Brown, St. Bartholomew's Hospital; Henry Swarbrick Brown, University College and Guy's Hospital; Gerald Lantsbery Bunting, Westminster Hospital; Henry Catling, St. Thomas's Hospital; Philip George Easton, St. Mary's Hospital; Vernon Hetherington, St. George's Hospital; †Cecil Hugh Myddn. Hughes, Westminster Hospital; Arthur Galt Jackson, University College, Liverpool; †Frederick Samuel Langmead, St. Mary's Hospital; Reginald Larkin, St. Olave's Grammar School, Southwark; Llewelyn Llewelyn, University College, Cardiff; †Lionel Henry Moiser, private study; Frederick Paine, University Tutorial College; †Albert Edward Pinniger, Middlesex Hospital; †William Phillips Price and †Ernst George Pringle, St. Bartholomew's Hospital; Charles Michael Roberts, St. Paul's School; †Ernest Sydney Routly, St. Mary's Hospital and Plymouth Technical Schools;

†Herbert Bartlett Simpson, University College and University Tutorial College; †Dansey Smith, private tuition and Middlesex Hospital; †Edward Bertram Smith, St. Bartholomew's Hospital; †Reginald Winter Sprague, St. Paul's School; John Benjamin Valentine Watts, University College, Bristol; †Hilda Kate Whittingham, private study and University Tutorial College, and Harry Theodore Wilson, Bedford Grammar School.

Biology.—†John Acomb, Yorkshire College; †Joseph Ebenezer Adams, St. Thomas's Hospital; †Harry Reginald Allingham, King's College; †Kenneth Anderson, Guy's Hospital; Charles Sydney Archer, Yorkshire College and University College, Nottingham; †Charles Henry Farley Bailey, Westminster Hospital; †Algernon James Beadel, Guy's Hospital; †Arthur Beeley, Yorkshire College; †Gerald Eade Bellamy, University Tutorial College; †William Broughton Blackburn, Yorkshire College; †Thomas Edward Blunt, London Hospital; †George Archibald Bosson, Epsom and University Tutorial Colleges; †John Braithwaite, Guy's Hospital; †Henry Jeaffreson Brewer, Epsom College; George Herbert Brown, Owens College and private study; †Hugh Westley Burman, Mason College and private tuition; †Percy Charles Bushnell, and †Rose Lilian Humphrey Davy, University Tutorial College; †Henry De Vine, Merchant Venturers' Technical College, Bristol; †Reginald Antony Eastmond, London Hospital; †Mary Gertrude Edis, University College and private study; †Moses Feldman, London Hospital; †John William Fox, University College, Sheffield; †Colin James Galbraith, King's College; †Douglas Gray, Charing Cross Hospital; †Reginald Affleck Greeves, Queen's College, Belfast; William Charles Frederick Harland, St. Bartholomew's Hospital; †Alfred William Iredell, Guy's Hospital; †Sweeton Johnson, Wyggeston School and St. Mary's Hospital; †William Kingdon Legassick, and †Alfred Lewthwaite, University College and University Tutorial College; †C. Jevome A. Nicolai Mercier, Charing Cross Hospital; †Reginald Henry Miller, St. Mary's Hospital; †Oswald Mills, St. Thomas's Hospital; Robert Vernon Giraud Monckton, St. Bartholomew's Hospital; Arthur Cyril Motta, St. Mary's Hospital; †Lorimer Gifford Nash, Guy's Hospital; †Agnes Agatha Parson and †Enid Marian Smith, Ladies' College, Cheltenham; Mary Marguerite Louise Taylor, University Tutorial College and private tuition; Mary Campbell Train, University Tutorial College; †George Wale, private study; Ada Miles Whitlock, University Tutorial College; †Henrietta Leila D. Williams, King's College and University College, Cardiff; and Frederick Robert Elliston Wright, St. Thomas's Hospital.

† These candidates have now completed the examination.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen having passed the necessary examinations have been admitted by the two Royal Colleges Diplomates in Public Health:—

Box, Stanley Longhurst, L.R.C.P. Lond., M.R.C.S. Eng., M.B. Lond.
Butler, William, M.B. and C.M. Glasg.
Carter, Godfrey, M.R.C.S. Eng., M.R.C.P. Edin.
Darabseth, Naoroji Beranji, M.R.C.S. Eng., M.B. and C.M. Aberd.
Dymott, Donald Frederick, M.R.C.S. Eng., M.B. Lond., Surgeon-Major I.M.S.
Hunter, George Holbrey, M.R.C.S. Eng., L.S.A. Lond.
Kitching, John Lea Walton, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond.
Morgan, Morgan John, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond.
Nicol, Percy Wood, M.B., C.M. Edin.
Ross, Frederic William Forbes, M.D., C.M. Edin.
Rowlands, David Richards, M.B., C.M. Edin.
Wallace, William, M.D., C.M. Glasg.
Wilkinson, John, M.B., C.M. Edin.

Three gentlemen were referred for six months.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND ROYAL COLLEGE OF SURGEONS IN IRELAND.—At the examination for the Diploma in State Medicine (Public Health) the following candidates have passed:—

Surgeon-Major Sinclair Westcott, A.M.S. (honours), and Maurice G. McElligott, L.R.C.P. and S. I., L.A.H.I.

UNIVERSITY OF CAMBRIDGE.—The General Board of Studies have at length produced their report on the suspended Professorship of Surgery. On the ground that at present there are no arrangements whereby beds at a hospital in Cambridge could be secured for a professor they are not prepared to recommend the assignment of a stipend to the chair and they accordingly propose that the suspension of the office should be continued until the University shall otherwise determine; but in order that the duties in regard to teaching and examination should be carried on they suggest that a Reader in Surgery should be appointed at a stipend of £240 a year, the appointment in the first instance being for five years or for a less time if the professorship should be revived in the interval. The duties of the Reader would be to teach and illustrate the principles and practice of surgery, to advance the knowledge of these subjects, and to promote their study in the University; he would also be, *ex officio*, an Examiner in Surgery for the M.B., B.C., and M.C. examinations. Inasmuch as the Board appears to think that the conditions as to clinical work which are unattainable by a Professor are attainable by a Reader, the natural inference is that the Reader must be selected from the surgical staff of the hospital.

At the congregation on Feb. 10th the following medical degrees were conferred:—*M.D.*: Charles Todd, B.A., M.B., B.C. Clare; Astley Vavasour Clarke, B.A., M.B., B.C. Caius. *M.B. and B.C.*: Charles Jephcott, M.A. Caius; Theodore Henderson Molesworth, B.A. Caius; Cyril Eden Michael, B.A. Selwyn.

PRESENTATIONS TO MEDICAL MEN.—On the 3rd inst., at the annual social meeting of the Caledonian Railway, Bridgeton, Ambulance Corps, held in the Albert Hall, Main-street, Mr. James Stirling, M.B. Glasg., of Bridgeton, lecturer to the corps, received the gift of several valuable books on surgery, &c., from the members of the corps.—On the 5th inst., at a well-attended meeting held in connexion with the West Smethwick centre of the West Bromwich Ambulance Brigade at the Cape Hotel for the distribution of the efficiency certificates, Mr. I. Pitt, L.R.C.P. Edin., M.R.C.S. Eng., of West Smethwick, the lecturer, was the recipient of a barometer from the members of the brigade.—On the same day at a meeting of the Sutton-in-Ashfield branch of the St. John Ambulance Association, held at the waiting-room at the town station, Mr. Robert Nesbitt, L.R.C.P., L.R.C.S. Irel., of Sutton-in-Ashfield, was presented with an umbrella. The branch is composed of employés of the Midland Railway Company and a few friends.—On the 7th inst., at the public hall, Cwmaman, Mr. D. Davies-Jones, M.B., C.M. Edin., was presented with an illuminated address and a gold watch and chain by the inhabitants of Cwmaman and a gold-mounted walking-stick from the members of the ambulance class on his departure. Mrs. Davies-Jones was also presented with a gold ring and a purse of gold.—At the annual festival, held in the City Assembly-rooms, on the 11th inst., of the members of the Ambulance Corps in connexion with the Caledonian Railway at Dundee Mr. Robert Buchanan, B.Sc., M.B. Glasg., of Dundee, the instructor of the corps, was presented with a silver jug in recognition of his services during the year.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 4th at the Miller Hospital, Greenwich, Dr. E. H. Ezard, Vice-President, being in the chair. Dr. G. Sims Woodhead introduced a discussion on the Serum Treatment of Disease and first explained the principles on which antitoxin is produced. It is the result of interaction between toxin when introduced into the body and certain cells of low specialisation such as those of the connective tissue group. The best method of producing antitoxin is by accustoming a horse to gradually increased doses of toxin. Antitoxin is thus produced in the blood. The animal has then two kinds of immunity—active which enables the tissues to react against toxin and passive due to the presence of antitoxin. Smaller doses of antitoxin are more efficacious in the earlier stages of diphtheria than in the late, as it is easier to neutralise the toxin when circulating in the blood than when it has attacked the cells, and degenerative changes in the latter cannot be undone by antitoxin. Large doses injected in the early stages act magically. One of the dangers is that improvement is so marked that people are liable not to be so careful and syncope may result. Dr. Woodhead then dealt with the serum treatment of tetanus, plague, typhoid fever, &c., explaining the differences in principle between the treatment of some of those and of diphtheria. He mentioned the fact of cultures of the streptococcus of erysipelas and bacillus prodigiosus being said to cut short the growth of carcinoma. About 200 units of antitoxin are sufficient to protect a person against diphtheria for about three weeks, but on the first day of the disease about from 600 to 1000 units are required and much larger doses on the second day. An erythematous rash and pains in the joints are often produced especially in prophylactic injections and are due to the persons getting about and not being dieted. Wine and brandy predispose to them. The unit of toxin is the amount which will kill a guinea-pig of 250 gammes in four days. The unit of antitoxin is the amount which will protect the same guinea-pig against 100 lethal doses of toxin.—The discussion was continued by Dr. Hart, Mr. Parke, Dr. Meggison, Dr. Bowen Williams, Mr. Payne, Dr. Henry, and Dr. Ezard, and a vote of thanks to Dr. Woodhead was carried.—Dr. Woodhead replied and the meeting then adjourned.—The next meeting, on March 4th, will be clinical.

A "DENTORIUM" AT NEWPORT (MON.).—At Newport (Mon.) on Feb 7th a young man was charged under the Dental Act (1878) with using the word "dentist" without being duly registered or qualified; he was farther charged with applying the word "dentorium" for his business. For the defence it was contended that the word "dentorium" no more implied that the user was a registered dentist than that the word "sanatorium" indicated its proprietor was a medical man. The magistrates imposed a fine of £3 5s. with respect to the first charge, but in regard to the application of the word "dentorium" they thought the evidence insufficient to convict.

FORFARSHIRE MEDICAL ASSOCIATION. — This society met on Feb. 4th in the University College, Dundee, Dr. Alexander Campbell, President, being in the chair.—Dr. Don showed a lad with an Eruption on the Right Leg and Thigh following the distribution of the cutaneous branches of the sciatic nerve in the thigh and the musculo-cutaneous nerve in the leg. The eruption broke out twelve months ago. There were no vesicles, but there were crops of papules with marked pigmentation accompanied by itchiness of the parts affected.—Dr. Guild read a paper on Nasal Obstruction in which he considered the various causes of this condition and advocated cocaine and the electric cautery as most efficient in treatment.—Dr. MacVicar read notes of a case of Visual Aphasia and Amnesia Verbalis occurring in a young man, a painter by trade, who had received a fair education. The patient's head was struck forcibly against the edge of a dresser on Dec. 27th, 1897, the injury being over the right parietal eminence. He suffered from symptoms of concussion and after recovery from this was unable to read. He gradually improved and was able to read aloud and write to dictation short words before he could recognise letters. He understood "written speech" subsequently to being able to read aloud. He could read simple sentences in fourteen days and numerals in nineteen days after the injury. The lesion was supposed to be of the nature of a hæmorrhage due to *contre-coup* over the left angular gyrus and possibly affecting the supra-marginal and posterior part of the third temporo-sphenoidal convolutions.—Dr. Kynoch read notes on a case of Labour complicated by Ovarian Tumour subsequently removed by operation. The woman was thirty-seven years of age and had seven children; the last two labours were complicated by an ovarian tumour which on account of the softness of its contents became flattened out between the head and posterior pelvic wall, allowing delivery to be completed by forceps. Ovariotomy was performed a few months after the last confinement, the tumour proving to be a dermoid cyst.—Dr. Mackie Whyte showed a case of Congenital Diplegia and gave notes of the case. It was that of a man, aged forty-eight years, and 4 ft. 5 in. in height. The trunk was short, measuring 21 in. from the top of the sternum to the symphysis pubis, and 34½ in. round the chest. The ribs on both sides were close to the iliac crest. The patient was unable to feed himself. The movements of the arm were chiefly adduction of arms across the body at the shoulder-joint. The arms were small and were both rotated inwards; the hands were in a state of pronation, the backs looking downwards when the man was in the erect posture; the thumbs lay across the palms. The lower extremities were poorly developed; the feet were in the position of talipes equino-varus. The joints were all freely moveable. There was a scoliosis of the spine most marked in the lower dorsal vertebræ. The patient was quite intelligent. Dr. Whyte stated that Dr. Sarah Macnutt had shown a meningeal hæmorrhage at birth to be the cause of this disease.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Registration Bill.

THE Bill for the registration of midwives is introduced this session by Mr. J. B. Balfour, the Lord Advocate for Scotland of the late Liberal Administration, and is backed by him and by Mr. A. de Tatton Egerton, who introduced the Bill last session, Mr. Schwann, Mr. Heywood Johnstone, Mr. Hazell, Mr. Cosmo Bonsor, Mr. Tennant, and Mr. Skewes Cox. In the ballot Mr. Balfour drew the eighth place which enabled him to put down the second reading of the Bill as the first order on Wednesday, May 11th. The Bill will then be discussed in the House unless it should turn out that the Government appropriates the day for its own business, a contingency which, to say the least, is to be reckoned with.

Venereal Disease among the Troops in India.

The Secretary of State for India (Lord George Hamilton) has agreed, on the suggestion of Major Rasch, to get prepared a return of the number of men mobilised for field service in the Indian frontier campaign who were left behind sick, showing those suffering from venereal disease or its effects and the number of men who broke down on service during the campaign from the same causes.

Irish Lunatic Asylums.

Mr. Lough has given formal notice that on Tuesday, March 15th, he proposes to call the attention of the House of Commons to the condition of Irish lunatic asylums and to move a resolution on the subject.

HOUSE OF COMMONS.

THURSDAY, FEB. 10TH.

Colour Vision of Sailors.

Mr. Ambrose asked the President of the Board of Trade whether he was aware that of the number of persons (sailors) rejected by the Board of Trade as colour-blind, as appeared from the Board's report, 1897, 41·6 per cent. of those who were rejected and who had appealed were on appeal passed, and whether the Board of Trade proposed to take any steps to revise their tests.—Mr. Ritchie replied that 5017 persons were examined in colour-vision during the year 1896 and of this number 58 failed to pass. Of these 12 availed themselves of the right of appeal and 5 were successful. The present system of sight-tests was based upon a report by a committee of the Royal Society specially appointed to inquire into the subject, and he was advised that no case had been made out for revising it.

The Extirpation of Rabies.

Mr. Walter Long, President of the Board of Agriculture, answering questions on this subject, said that the withdrawal of the various muzzling orders now in force must necessarily depend upon the conditions which from time to time prevailed in regard to rabies in the district concerned and it was therefore not possible for him to specify a date for such withdrawal in any particular case at the present time. He might say that so far as their operations had at present proceeded they had met with even a greater measure of success than they might have anticipated and there was no reason to doubt that with patience on the part of dog-owners and the coöperation of all concerned they would be able to secure the extirpation of rabies in this country.

The Tuberculosis Commission.

Mr. Chaplin was questioned as to the probable date of the issue of the report of the Royal Commission on Tuberculosis but he could only answer that the commissioners are now engaged upon the preparation of their report.

Lead Poisoning in the Potteries.

Mr. Tennant asked the Attorney-General whether his attention had been called to the case of three girls who in the course of their work in the Potteries have become blind through the action of lead poisoning, and whether it was the case that the Workmen (Compensation for Accidents) Act, when it came into operation, would provide a remedy in such cases.—Sir Richard Webster replied that his attention had not been called to the case. It was not possible to answer an abstract question as to the effect of the Workmen's Compensation Act because every case must depend on its own special circumstances as to whether the injury was the result of an accident.

FRIDAY, FEB. 11TH.

Rabies in Ireland.

Mr. Gerald Balfour, replying to a question by Mr. T. M. Healy, said that the muzzling order had been made general in Ireland owing to the fact that the cases of rabies in Ireland were distributed sporadically all over the country. The method of dealing with the disease by regulations applied to comparatively small areas which had been tried in previous years had not proved successful, and urgent representations were made by a number of local authorities that a uniform code of muzzling regulations should be applied to the whole country. The total number of cases of rabies in Ireland during the past year was 497; of these 335 cases were reported in the half-year ended June 30th, and during the second half-year, when the muzzling order was in force throughout the country, the number was 163.

Killed and Wounded on the Indian Frontier.

Lord George Hamilton, asked for an account of the British losses on the Indian Frontier, replied: The following are the latest figures in my possession:—Killed: 43 British officers of British and native regiments, 146 British soldiers, and 310 native officers and soldiers. Wounded: 91 British officers of British and native regiments, 419 British soldiers, and 900 native officers and soldiers. But I have not received complete returns of the casualties among the native troops or of deaths from disease. A telegram on the subject has been sent to the Government of India.

MONDAY, FEB. 14TH.

The Vaccination Bill.

General Russell asked the President of the Local Government Board if he could state when the Vaccination Bill promised in the Queen's Speech would be introduced, and received a reply in the negative.

Nursing in Scottish Prisons.

Mr. Orr-Ewing asked the Lord Advocate for Scotland if any steps were being taken to place hospital warders in prisons in Scotland, or if the

present system by which prisoners in hospitals were looked after by fellow criminals was to be continued in Scotland although condemned in England and Ireland.—The Lord Advocate, in reply, said that the question implied that no care other than that of prisoners was given to the sick. This was not the case. He was informed by the Prison Commissioners that the sick were both attended by the medical officer and seen to by warders or in special cases by hired attendants as required by the general instructions or by the special request of the medical man. Of the eleven mainland prisons four of the smaller prisons had no special warders on hospital duty; at the others there are warders who draw allowances as nurses.

Lead Poisoning in the Potteries.

Mr. Holland asked the Secretary of State for the Home Department whether he would consider the wisdom of instituting an inquiry into the working of the existing special rules bearing on the sickness and mortality in the Potteries and the advisability of referring such inquiry to one of the departmental committees now investigating dangerous trades, such, for example, as that which had the advantage of the services of Dr. Oliver.—Sir Matthew White Ridley said he had noticed with concern the number of cases of lead poisoning which still occur in certain branches of the earthenware manufacture. The special rules to which the hon. member referred were based on the recommendations of a committee which made a full inquiry into the subject in 1893 and he hardly thought it necessary at present to refer the subject again to the committee. Constant attention, however, had been given to the subject by the factory inspectors and he had directed special inquiry to be made into the working of the rules and he should be prepared if necessary to amend them and to take any steps that might be required.

TUESDAY, FEB. 15TH.

The Age of Army Recruits.

Mr. Brodrick, in reply to a question on this subject by Captain Pirie, said that the ages taken for the monthly returns were those "affirmed" by the recruits themselves to the best of their belief. The present form of attestation required the medical officer to certify the probable age of the recruit, and any recruit who had not the physical characteristics of eighteen years of age was rejected. As a considerable proportion of recruits claimed to be and were accepted as over nineteen they had no motive for over-stating their age. The proposals which he would shortly submit to the House would be found to have an important bearing upon the question.

WEDNESDAY, FEB. 16TH.

Chemical Compounds.

At this sitting Mr. Wootton Isaacson formally introduced a Bill to amend the law relating to patent and proprietary chemical compounds.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Nasal Obstruction: The Diagnosis of the Various Conditions Causing it and their Treatment. By W. J. Walsham, M.B., C.M. Aberd., F.R.C.S. Eng. 1898. Price 7*s.* 6*d.* net.

BLACKIE AND SON, Old Bailey, London, E.C.
Elementary Physics, Practical and Theoretical. First Year's Course. By J. G. Kerr, M.A. 1898. Price 1*s.* 6*d.*

CASSELL AND CO., London.
Diseases of Women: A Clinical Guide to their Diagnosis and Treatment. By G. E. Herman, M.B. Lond., F.R.C.P. Illustrated. 1898. 25*s.*

CHAMBERS, W. AND R., London and Edinburgh.
Chambers's Algebra for Schools. By W. Thomson, M.A., B.Sc., F.R.S.E. 1898. Price 4*s.* 6*d.*

CHATTO AND WINDUS, St. Martin's-lane, London.
Herbert Fry's Royal Guide to the London Charities. Edited by J. Lane. Thirty-fourth annual edition. 1897. Price 1*s.* 6*d.*

CHURCHILL, J. & A., Great Marlborough-street, London.
Skin Diseases of Children. By G. H. Fox, A.M., M.D. Illustrated. 1898. Price 12*s.* 6*d.*

DAWBARN AND WARD, Farringdon-avenue, London, E.C.
Glass-Blowing and Working. By T. Bolas, F.C.S., F.I.C. Illustrated. 1898. Price 2*s.* net.

DOIN, OCTAVE, Paris.
Deuxième Session de l'Association Française d'Urologie, Paris, 1897. Procès-verbaux, Mémoires, et Discussions. Par Dr. Desnos. 1898.

FISCHER, G., Jena.
Handbuch der Therapie innerer Krankheiten. Von Drs. Penzoldt und Stintzing. Zweite Auflage. 7. und 8. Lieferungen. 1897.
Lehrbuch der Entwickelungsgeschichte des Menschen. Von Dr. J. Kollmann. 1898.
Technik der Histologischen Untersuchung Pathologisch-Anatomischer Präparate. Von Dr. C. Kahlden. 5. Auflage. 1898.
Die Behandlung des Nachgeburtszeitraumes. Von Professor Dohrn. 1898.
Handbuch der Anatomie. Von Dr. Karl Bardeleben. 6. Lieferung. 1898.

HIRSCHWALD, AUGUST, Berlin.
Mittheilungen und Verhandlungen der Internationalen Wissenschaftlichen Lepra-Conferenz zu Berlin, im Oktober, 1897. 3. Band. 1898.
Handbuch der Arzneiverordnungslehre. Von Dr. C. A. Ewald. Dreizehnte Auflage. 1898.
Grundriss der Klinischen Bakteriologie. 2. Auflage. Von Dr. E. Levy und Dr. F. Klemperer. 1898.

LOCAL GOVERNMENT JOURNAL OFFICE, Dorset-street, Fleet-street, London.
The Local Government Annual. An Official Directory. 1898. Edited by S. Edgecumbe-Rogers. Price 2*s.* 6*d.*

MACDOUGALL, ALEX., Mitchell-street, Glasgow.
Transactions of the Glasgow Pathological and Clinical Society. Vol. VI., Sessions 1895-1897. Edited by A. E. Maylard, M.B., B.S. Lond. 1897.

PENTLAND, YOUNG J., Edinburgh.
Diseases in Women. By J. C. Webster, B.A., M.D. Edin. Illustrated. 1898.
A Practical Guide to the Examination of the Eye. By Simeon Snell, F.R.C.S. Edin. Illustrated. 1898.
Manual of Operative Surgery. By H. J. Waring, M.S., M.B., B.Sc. Lond., F.R.C.S. 1898.
Edinburgh Hospital Reports. Illustrated. Vol. V. 1898.

SMITH, ELDER, AND CO., Waterloo-place, London, S.W.
The Tragedy of the Korosko. By A. Conan Doyle. Illustrated. 1898. Price 6*s.*
Religio Medici and Other Essays. By Sir Thomas Browne. Edited, with an Introduction, by D. Lloyd Roberts, M.D., F.R.C.P. Revised Edition. 1898. Price 3*s.* 6*d.* net.
Researches on Tuberculosis: the Weber-Parkes Prize Essay. By Arthur Ransome, M.A. Cantab., F.R.S. 1898. Price 2*s.* 6*d.* net.
Transactions of the Pathological Society of London. Vol. XLVIII. Comprising the Report of the Proceedings for the Session 1896-97. 1897.

THE REBMAN PUBLISHING COMPANY, Adam-street, Strand, London.
The Pocket Formulary for the Treatment of Disease in Children. By L. Freyberger, M.D. Vienna, M.R.C.P. Lond., M.R.C.S. 1898. Price 6*s.* 6*d.* net.

THE SANITAS COMPANY, Letchford's-buildings, Bethnal-green, London, E.
"Sanitas": How to Disinfect. Third Edition. 1898.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ARBUCKLE, H. W., M.D. Aberd., D.P.H. Camb., has been re-appointed Medical Officer for the Stainforth Sanitary District of the Thorne Union.

BENNETT, C. J., M.R.C.S., has been re-appointed a Medical Officer by the Hayfield Rural District and Parish Councils.

BURMAN, F. J., L.R.C.P. Edin., M.R.C.S., has been appointed a Medical Officer by the Wath, Swinton, Greasborough, and North Rotherham Joint Hospital Board, vice W. M. Burman, retired.

BUXTON, DUDLEY W., M.D. Lond., M.R.C.P., has been appointed Consulting Anæsthetist to the National Hospital for Paralysis and Epilepsy, Queen-square, Bloomsbury.

CAMPBELL, JOHN, M.A., M.D., F.R.C.S. Eng., has been appointed Examiner in Anatomy at the Apothecaries' Hall in Ireland.

CAVE, E. J., M.D. Lond., M.R.C.P., has been appointed Honorary Assistant Physician to the Royal United Hospital, Bath.

CHEATLE, GEO. LENTHAL, F.R.C.S. Eng., has been appointed Surgeon to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park.

COLLINS, O. A. GLASIER, B.A., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Eastern Dispensary, Bath, vice F. Lace, resigned.

DAVIES, W. T., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Second and Third Districts of the Hertford Union.

DERAVIN, H. A., M.B., Ch.B. Melb., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

EMERSON, T. G., M.D., M.Ch. Irel., has been re-appointed Medical Officer of Health by the Wantage Urban District Council.

FROST, T. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Llanhilleth Sanitary District of the Pontypool Union.

GOULD, A. PEARCE, F.R.C.S. Eng., has been appointed a Consulting Surgeon to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park.

HAINWORTH, E. M., M.D., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Hull Royal Infirmary, vice D. Lowson.

HANSON, R. J. E., M.B., B.C. Cantab., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

HAY, W. A. E., M.R.C.S., L.S.A., J.P., has been re-appointed Medical Officer of Health by the Bridport Rural District Council.

HILL, ROWLAND, M.R.C.S. Eng., has been appointed Medical Officer for the Beerferris District by the Tavistock Board of Guardians.

HOUTON, E. H., M.B. Lond., L.R.C.P., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Mansfield and Mansfield Woodhouse District Hospital.

LIDDON, E., M.D. Edin., MR.C.S., has been appointed an Honorary Consulting Physician to the Taunton and Somerset Hospital.

MACCARTHY, EUGENE F. TALBOT, L.R.C.P.I., L.R.C.S.I., L.M., has been appointed Physician to the British Hospital for Mental Disorders and Brain Diseases.

MESSITER, A. E., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Belton Sanitary District of the Thorne Union.

NUTTING, E. S., M.B., C.M. Edin., has been re-appointed an Honorary Surgeon to the Mansfield and Mansfield Woodhouse District Hospital.

PRONGER, C. E., F.R.C.S. Eng., has been appointed Ophthalmic Surgeon to the Harrogate General Hospital.

RICHARDS, J. R. C., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Medical Officer for the Swinhope Sanitary District of the Caistor Union.

ROBERTS, J. L., M.D., B.S. Lond., has been appointed Medical Officer of Health for the Prestatyn Urban District.

SLADE-KING, EDWIN JOHN, M.D. Edin., L.R.C.P. Lond., M.R.C.S., D.P.H., L.R.C.P. Edin., has been re-appointed Medical Officer by the Dulverton Rural District Council.

SMITH, H. W., L.R.C.P. Lond., has been re-appointed an Honorary Surgeon to the Mansfield and Mansfield Woodhouse District Hospital.

SPARKE, G. W., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Mansfield and Mansfield Woodhouse District Hospital.

SPICER, FRED., JUNR., M.D. Durh., M.R.C.S., has been appointed an Honorary Surgeon to the Metropolitan Ear, Nose, and Throat Hospital, Grafton-street, Fitzroy-square.

THOMSON, H. CAMPBELL, M.D. Lond., has been appointed Registrar to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park.

TURNER, JOHN ANDREW, M.B., C.M., D.P.H. Camb., has been appointed Medical Superintendent to the Hertford and Ware Joint Hospital for Infectious Diseases and Honorary Pathologist and Bacteriologist to the Hertford General Infirmary.

TURNER, WM. ALDREN, M.D. Edin., FR.C.P. Lond., has been appointed a Medical Officer to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park.

UPPLEBY, J. G., L.R.C.P. & S. Edin., has been re-appointed a Senior Visiting Surgeon to the Provincial Hospital, Port Elizabeth, South Africa.

WADE, REGINALD, M.R.C.S., L.S.A., has been appointed Medical Officer for the No. 9 B District, Oxbridge Union, vice Joseph Ford, resigned.

WEBBER, H. W., M.D., M.S Lond., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital, Plymouth.

WILKINSON, JAMES B., M.D., C.M. Edin., D.P.H. Vict., has been appointed Medical Officer of Health for the County Borough of Oldham, vice C. H. Tattersall, resigned.

WILSON, FRANCIS KENNETH, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P., has been appointed House Surgeon to the Seamen's Branch Hospital in the Royal Victoria and Albert Docks, London, vice D. C. Rees, resigned.

YOUNG, EDWARD HERBERT, M.D. Durh., L.R.C.P. Lond., M.R.C.S., L.S.A., D.P.H. Lond., has been re-appointed Medical Officer of Health for Okehampton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COLLEGE, LONDON, FOR WOMEN, York-place, Baker-street, W.—Professorship in Zoology.

BELGRAVE HOSPITAL FOR CHILDREN, 77 and 79, Gloucester-street, London.—Surgeon to Out-patients. Also House Surgeon for six months. Board, lodging, and washing provided.

BRISTOL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £100 per annum, with rooms and attendance (not board).

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Dental Surgeon.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident Junior House Surgeon and Dispenser. Salary £50 per annum, with board, apartments, and laundress.

CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL, Park-hill.—Resident Medical Officer at the City Hospital, Park-hill, unmarried. Salary £120 per annum, increasing £10 per annum to £140 (subject to certain conditions). Applications to the Town Clerk, Town Clerk's Office, Liverpool.

DARENTH ADULT ASYLUM, near Dartford, Kent.—Assistant Medical Officer, unmarried. Salary £160, rising at the discretion of the Committee to £200, with board, lodging, attendance, and washing subject to statutory deduction. Applications to the Clerk to the Board, Norfolk-street, Strand, London, W.C.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Board, residence, and washing provided, and an honorarium of £10 given conditionally.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Surgeon for six months. Board, residence, &c. are provided, and an honorarium of 15 guineas, conditionally.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Casualty Officer for six months. Salary at the rate of £100 per annum.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION, Gloucester.—Surgeon.

LIVERPOOL ROYAL INFIRMARY.—Honorary Gynæcological Surgeon.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer at Bowden, Cheshire, for twelve months. Salary £60 per annum, with board, apartments, and washing.

PARISH OF ST. GILES, Camberwell.—Medical Officer for the Infirmary at Havil-street, Camberwell, and the Workhouse at Gordon-road, Peckham. Salary £350 per annum, increasing £25 annually to a maximum of £400, with unfurnished house, water, gas, and coals. Also Assistant Medical Officer for the Infirmary at Havil street, Camberwell, and the Workhouse at Gordon-road, Peckham. Salary £120 per annum, increasing £10 annually to £150, with apartments, board, and washing. Applications to the Clerk to the Guardians, 29, Peckham-road, S.E.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £30 per annum, with board and washing.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Physician. Salary £60, with board and washing.

ROYAL INFIRMARY, Hull.—Senior House Surgeon, unmarried. Salary 100 guineas, with board and furnished apartments.

ROYAL SOUTH LONDON DISPENSARY, St. George's-cross, S.E.—Honorary Surgeon.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, and board, residence, and laundry provided. Also Assistant House Surgeon. Salary £30, and board, residence, and laundry provided.

ST. GEORGE'S HOSPITAL, London, S.W.—Assistant Obstetric Physician. Also Surgeon and an Assistant Surgeon.

ST. MARY'S CHILDREN'S HOSPITAL, Plaistow.—Junior House Surgeon for six months. Salary at the rate of £40 per annum, with board, lodging, and laundry.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN, Marylebone-road, London, N.W.—Pathologist.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £70 per year, with residence, board, and washing.

SUFFOLK COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried, for three years. Salary £100 a year, with board, lodging, washing, and attendance. Applications to the Medical Superintendent, County Asylum, Melton, Suffolk.

TOTTENHAM HOSPITAL.—House Surgeon. Salary £40 per annum, and board, washing, and lodging in the Institution.

WALLASEY DISPENSARY.—House Surgeon, unmarried. Salary £150 per annum, with furnished house, coal, and gas. Applications to Mr. Wm. Heap, Elm Mount, Penkett-road, Liscard, Cheshire.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £60 per annum, with board and residence in the hospital.

Births, Marriages, and Deaths.

BIRTHS.

BASSANO.—On Feb. 14th, at Colchester, the wife of T. M. Bassano, M.B., of a daughter.

BERRY.—On Feb. 8th, at South Lowestoft, the wife of Walter Berry, M.D., of a daughter.

LEES.—On Feb. 12th, at The Avenue, Redland-road, Redland, Bristol, the wife of E. Leonard Lees, M.D., of a son.

LEWIS.—On Feb. 15th, at Manor-road, Folkestone, the wife of Percy Lewis, M.D., of a son.

TAYLOR.—On Feb. 11th, at Windsor-place, Cardiff, the wife of Arthur E. Taylor, M.B., C.M., of a son.

WILD.—On Feb. 8th, at Lyndewode-road, Cambridge, the wife of H. Sydney Wild, M.R.C.S., of a daughter.

DEATHS.

ANDERSON.—On Feb. 10th, at Lansdowne-crescent, W., Francis Anderson, M.D., late Inspector-General of Hospitals, Bengal, in his 85th year.

DUFFUS.—On Feb. 5th, at the North London Fever Hospital, of scarlet fever, John Charles Grant Duffus, M.A., M.B., C.M., late of Springburn, Glasgow, and Cullen, Scotland, aged 36 years.

JOHNSTON.—On Feb. 11th, at Calthness House, Ryde, James Townsend Oswald Johnston, M.D., Deputy Inspector-General of Army Hospitals, in his 85th year.

LONGMORE.—On Feb. 7th, at Luxor, Egypt, Thomas William Muir, Longmore, M.R.C.S., L.R.C.P., in his 34th year.

MCFALL.—On Feb. 8th, at Falley-lane, Warrington, David Chambers McFall, Brigade-Surgeon-Lieutenant-Colonel (R.P.), in the 66th year of his age.

REMFRY.—On Feb. 11th, suddenly, Leonard Remfry, M.A., M.D. Cantab., of Great Cumberland-place, W., aged 37 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (21st).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. H. Morgan: The Affections of the Urinary Apparatus of Children. (Lettsomian Lecture.)

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Adjourned Discussion on Mr. A. Marmaduke Sheild's paper on Immunity and Latency after Operations for Reputed Carcinoma of the Breast. Re-opened by Mr. Pearce Gould.

WEDNESDAY (23rd).—HUNTERIAN SOCIETY (London Institution Finsbury-circus, E.C.).—8.30 P.M. Mr. H. T. Butlin: What Operation can do for Cancer of the Tongue.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—5 P.M. Ordinary Meeting. Paper: Dr. A. Eddowes: A Case of Ringworm contracted from a Hedgehog. Patients will be shown by Dr. T. Savill and others.

SOCIETY OF ARTS.—8 P.M. Mr. R. Brudenell Carter: Children's Sight.

THURSDAY (24th).—NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, W.).—8.30 P.M. Clinical Meeting. The following cases will be shown:—Dr. Donkin: (1) Condition resembling Thomsen's Disease in a child aged three years; (2) Hemianæsthesia (including special senses) alternately Appearing and Disappearing in a man aged fifty years.—Dr. Mott: Case for Diagnosis.—Dr. H. Hawkins: Case of Muscular Atrophy.—Dr. Beevor: Case of Pachymeningitis.—Dr. L. Guthrie: Unilateral Syringomyelia.—Dr. J. Taylor: Acute Bulbar Paralysis.—Dr. Ormerod: Peculiar Form of Athetosis.—Dr. F. E. Batten: Friedreich's Disease with Mental Defect.—Dr. S. Mackenzie: Case of "Head Nodding."

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. The following cases will be shown:—Mr. J. Hutchinson, jun.: Case illustrating the result of Laminectomy for Paraplegia eighteen months after operation.—Dr. A. E. Garrod: Achondroplasia in a child.—Mr. G. R. Turner: (1) Retained Testis and Abdominal Tumour; (2) Hypertrophy of the Gums.—Dr. Cayley: Muscular Wasting following Operation for Double Empyema.—Dr. Pringle: Case of Xeroderma Pigmentosa.—Mr. E. Cotterell: (1) Case of Paraplegia due to Spinal Caries, to show Walking Power after treatment by M. Calot's method; (2) Case of Gastro-jejunostomy. And other cases. Patients in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (21st).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. H. J. Waring: The Pathology and Treatment of those Diseases of the Liver which are Amenable to direct Surgical Interference. (Erasmus Wilson Lecture).

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Woakes: Nasal Neurosis.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Dr. L. Parkes: Blots in our Sanitary Administration—Why Epidemics Occur. (Introductory Lecture.)

TUESDAY (22nd).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Dr. F. Beach: General Paralysis of the Insane and other Disorders of the Nervous System characterised by General Paralysis, with cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. W. S. Colman: Lecture.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Melancholia and Hypochondriasis.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Alopecias.

WEDNESDAY (23rd).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. H. J. Waring: The Pathology and Treatment of those Diseases of the Liver which are Amenable to direct Surgical Interference. (Erasmus Wilson Lecture)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Turner: Neurological Cases.

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Construction of Dwelling-Houses.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Biss: Asthma.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Dr. N. Tirard: Albuminuria in Children. (Post-Graduate Course.)

THURSDAY (24th).—CHARING-CROSS HOSPITAL.—4 P.M. Dr. M. Murray: Demonstration of Medical Cases. (Post-graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Kellock: Demonstration of Selected Cases.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W.—5.30 P.M., Dr. G. Smith: Clinical Lecture.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Mr. H. Manley: Sanitary Law, English, Scotch, and Irish; General Enactments Public Health Act, 1875; Model By-Laws, &c.

LONDON SKIN HOSPITAL (40, Fitzroy-square, W.).—4 P.M. Mr. J. Startin: Various Forms of Acne.

FRIDAY (25th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. H. J. Waring: The Pathology and Treatment of those Diseases of the Liver which are Amenable to direct Surgical Interference. (Erasmus Wilson Lecture.)

LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Examination of Air, Soil, and Water.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Dr. A. Chaplin: Chronic Pulmonary Induration (Fibroid Phthisis).

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 17th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Feb. 11	30·29	S.W.	0·10	58	52	45	44	47	Overcast
,, 12	30·32	W.	0·09	63	54	47	46	47	Overcast
,, 13	30·18	S.W.	...	61	49	46	48	49	Raining
,, 14	30·15	W.	...	72	54	41	42	44	Hazy
,, 15	30·23	W.	...	68	56	44	46	49	Overcast
,, 16	30·11	N.W.	...	82	55	45	42	45	Cloudy
,, 17	30·16	N.W.	...	53	47	43	41	44	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

GRATITUDE.

THE *Krugersdorp Sentinel* prints the following notice of death, which shows poor little Miss Smit's parents to be really grateful people:—

"Death.—Smit.—On the 2th inst., Amy Jane Mary Smit, eldest daughter of John and William Smit, aged 1 day 2½ hours. The bereaved and heartbroken parents beg to tender their hearty thanks to Dr. Jones for his unremitting attention during the illness of the deceased, and for the moderate brevity of his bill. Also to Mrs. Williams for the loan of clean sheets, to Mr. Wilson for running for the doctor, and to Mr. Robinson for recommending mustard plaster."

"A QUESTION OF CLIMATE."

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry of "A. Z." for a mild spot in Germany or Switzerland with educational advantages, allow me to say that the climate of Germany resembles in the main that of corresponding latitudes of England but is colder in winter. In Dresden, where there is a large English and American colony, the winter may be severe. The isothermal line traversing London dips south to near Munich but the difference between summer and winter temperatures is much wider in the southern part of Germany than in London. In Switzerland the elevation of the country renders the climate cold, but this cold is not felt so keenly as in more northern latitudes with the same temperature owing to the brightness of the sun and the dry air. The shores of the Lake of Geneva have a higher mean temperature than any other part of the country. Geneva is highly distinguished as a seat of learning but is rather colder than other parts along the borders of the lake. In Lausanne there are numerous girls' schools and *pensions*. The position of the town is rather exposed to the *bise* or north wind, otherwise it is an agreeable and healthy situation. Montreux, on the other hand, is sheltered from the north and north-east, is calm, and has facilities for education. It is, however, like Geneva and Lausanne, a little cloudy in mid-winter. In July and August a higher elevation is desirable on account of the heat; the number of pensions in the vicinity at various altitudes offer many inducements to visitors and inhabitants to make a temporary move higher up the mountains.

I am, Sirs, yours faithfully,

Montreux, Feb. 14th, 1898. TUCKER WISE.

UNQUALIFIED ASSISTANTS AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—In the notice sent out by the General Medical Council to all general practitioners respecting the employment of unqualified assistants it asserts that the notice does not apply to the legitimate employment of dressers, midwives and dispensers, and surgery attendants. I should like to know what it means by midwives, whether males or females, or would the man who acted as dispenser be allowed, or in other words would it be legal for him to attend midwifery cases under the supervision of a qualified man, or what do the Council mean by the word midwife?

I am, Sirs, yours faithfully,

JAMES JOHNSTON.

St. Thomas's-street, Netherton, Feb. 11th, 1898.

P.S.—If the term midwife means a female, a general practitioner could employ a lady dispenser and also allow her to attend midwifery.

"A TESTIMONIAL TO DR. JOHN T. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—Will you kindly insert in THE LANCET the following additional and final subscriptions received by me for the testimonial to Dr. Arlidge. This does not include funds collected in Staffordshire. Thanking you in anticipation,

I am, Sirs, yours faithfully,

CHAS. F. MOORE.

10, Upper Merrion-street, Dublin, Feb. 14th, 1898.

Mr. J. Challoner	£1 1 0
Mrs. Baker (Leamington)	2 2 0
Mr. Wm. S. Brough	1 1 0

"PHYSICAL CURIOSITIES."

To the Editors of THE LANCET.

SIRS,—The annotation in your issue of Feb. 12th under the above title, in which mention is made of Young Hermann, who possesses the power of altering his girth to a remarkable degree, reminds me of two other cases in which the same power has been recorded. The first is in Vol. IV. of Buckland's "Curiosities of Natural History," page 99, and the second in a book called "Wonderful Characters" published by Hotten. Buckland's account is as follows and was given to him by a correspondent:—"When I was at Dinan (Brittany) in 1833, a man came round the town under the permission of the mayor, headed by a drum. He was the most miserable object I ever saw, and called himself by the appropriate name of the 'Living Skeleton,' &c. A record of this is most likely at the Mairie to this day. We went to see him perform, and, amongst others, was an English as well as a French doctor. He first requested us to attach the two joints of the thumbs together above the bone: this we did with very fine whipcord, so excessively tightly bound round that one would have thought that the little blood (if any) that might be in him would have burst out at the end. But no; he quietly wetted the fastening, and as quietly withdrew one of the thumbs therefrom, leaving one centre of the figure ∞ versed. He did a variety of other experiments with padlocks, &c., and finished by requesting us to procure a moderately-sized chain (it was a long one, somewhat stronger than a jack-chain). With this chain the body and arms were encircled as tightly as two men could possibly haul it by placing their feet against his body. He made the remark to a gendarme present—'I suppose that if you had got me now in prison, you would think you were all right?'—and then, by a sudden movement of the body, the whole of the chain fell to the ground."

The "Wonderful Character" was one Daniel Cuerton, born in 1749. Of him it is related that "he could appear the largest or the smallest man across the chest in the company, if there were twenty persons present, and put on the coat of a boy fourteen years of age and it would apparently fit him. Such an astonishing way had he of compressing himself that he would measure round under the armpits with three handkerchiefs tied together and yet the same measure being applied again at the same place would measure round him and three other stout men, being four persons in the whole. How he did this none could tell, but it seemed he had an art of drawing his bowels up to his chest and greatly swelling himself at pleasure." Truly it may be said of freaks as of many other matters—there is nothing new under the sun.

I am, Sirs, yours faithfully,

Feb. 14th, 1898. M.B.

SAIREY GAMBLE.

To the Editors of THE LANCET.

SIRS,—The enclosed "circular" has been pretty freely distributed in this neighbourhood. I suppose it is a fair specimen of what we may expect from the Gamps when the Midwives Bill is passed, as it will be, thanks to the apathy of those chiefly concerned—the junior members of the profession.

I am, Sirs, yours faithfully,

Feb. 15th, 1898. L.R.C.P.

*** *The enclosure which we print below was headed by the figure of an elegant boy in the costume of a court page, who takes off his three-cornered hat as he points with significant finger to Mrs. Gamble's advertisement.*

[ENCLOSURE.]

TO THE LADIES
Of Broomhill and the surrounding districts.

MRS. GAMBLE

Begs to inform you that she has been practising for some time in this district as a

MIDWIFE

and hopes by giving strict attention to her duties, to gain a share of your patronage.

THE HIGHEST MEDICAL HELP IF REQUIRED.

LADIES NOT WISHING TO CALL MAY SEND A LETTER, WHICH WILL RECEIVE PROMPT ATTENTION.

PLEASE NOTE THE ADDRESS:

MRS. GAMBLE,
MIDWIFE,
Bk. 148, WHITHAM ROAD,
NEXT TO MR. B. RAYNOR'S CAB OFFICE,
BROOMHILL.

References if required.

"THE INTERNAL ADMINISTRATION OF IODOFORM."

To the Editors of THE LANCET.

SIRS,—If Staff-Surgeon A. G. P. Gibbs will consult Section 252-4 of the Medical Digest, 1890 edition, and the last appendix also, he will find much information regarding the internal use of iodoform.

I am, Sirs, yours faithfully,

RICHARD NEALE, M.D. Lond.

Finchley-road, Hampstead, N.W., Feb. 16th, 1898.

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent, Staff-Surgeon A. G. P. Gipps in THE LANCET of Feb. 12th, I beg to state that he may administer iodoform internally either in the form of pill or mixture. The dose of iodoform is ½ to 3 grains, but remembering that occasionally toxic symptoms are produced by its use I should recommend a small dose to be given at first, also that the drug should be fresh, as I am inclined to think old iodoform becomes more or less inert. It may be used in pill form thus: iodoformi gr. i., extracti glycyrrhizæ, q.s.; or iodoformi gr. i., sugar of milk gr. ss., glycerina tragacanthæ, q.s. If a mixture is prescribed it may be used thus: iodoformi gr. viii., ether sulphurici m. xl., mucilaginis tragacanthæ, q.s., aquam ad ℥viii.; ℥ ter die sumend. The ether sulphuricus in the mixture assists in the partial solubility of the drug, it being soluble about 1 in 10.

I am, Sirs, yours faithfully,

ALFRED W. ROBSON, M.D. Brux.

Park-road, Aston, Feb. 15th, 1898.

THE HOUSING OF THE WORKING CLASSES.

THE problem of providing dwellings for the working classes is as difficult to solve as it is important to the community in general, and any fresh light that can be thrown upon it is a distinct gain. The statement that in nine years the London County Council have spent some £500,000 in housing 6000 persons, has called forth from Lord Rowton a letter to the *Times* showing how the gift of £200,000 given by Lord Iveagh has been administered by the

Guinness Trust. During the same period of time that the County Council have been working in this direction the trustees of the Guinness Trust have acquired and built on seven sites—six purchased in the open market and one in Chelsea presented to them by Lord Cadogan. The buildings contain 2232 tenements, or 4568 rooms. On Dec. 31st, 1897, there were living in the six first-named buildings 7327 persons. The cost of the six buildings in occupation (inclusive of the cost of sites other than that given by Lord Cadogan) was £310,384, and the return on that expenditure, after providing for depreciation, repairs, management, and all other expenses, is 3½ per cent. From this Lord Rowton thinks it will be evident that so far the result of the operations of the London County Council in the matter of providing dwellings for the working classes contrasts very unfavourably with that recorded above.

RULES FOR THE CONDUCT OF AN ISOLATION HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers who have charge of a small hospital in which two or more infectious diseases are treated would be so good as to send me copies of any rules there may be relating to the management of such a hospital or to the duties of the several persons engaged there. An isolation hospital of 40 beds has been built here for the treatment of scarlet fever, diphtheria, and typhoid fever in different buildings on the same site, and I am anxious to profit by the experience of others in drawing up rules for the regulation of this hospital.—I am, Sirs, yours faithfully,

MARYN READ,

Feb. 14th, 1898. Medical Officer of Health to the City of Worcester.

THE CARE OF CHANCERY LUNATICS.

To the Editors of THE LANCET.

SIRS,—Will any of my fellow readers of THE LANCET favour me by explaining by what means the care of Chancery lunatics is obtained and how to set about it? I am, Sirs, yours faithfully,

Feb. 15th, 1898. INVICTA.

WHAT'S IN A NAME?

THE *Pall Mall Gazette* of Feb. 11th has an amusing article upon the value of names, more especially in disease. Never, says the writer, would influenza have attained the power and variety of incidence it shows if instead of being called by such a general name it had been given a name that would "give some direction to its activities." Small-pox has become "small" simply because it was called so. Jenner had nothing to do with it—he only invented vaccination; and people contemplating the two words "small-pox" and "vaccination" have "quite rightly come round to the conclusion that vaccination is the worse disease of the two." This is a nice whimsical argument which, supported by properly faked statistics, ought to produce quite an effect in certain circles. His remarks upon the love which some patients show for having their complaints described by a high-sounding name are very true. For instance, it is no use telling the "lady of a labouring man" that she has only indigestion, for she herself knows that she has been near to death with the "ricks and the wrenches," so the wise doctor prescribes accordingly. Any medical man will bear witness to the truth of this, and we have no doubt that if a practitioner were to inform a patient of this kind that she was suffering from "aldiborontephoscophornio" his practice would go up by leaps and bounds. It is the same feeling which makes the public rush to buy anything described as "electric," even though the article in question may have no more electricity in it than a tin-tack; but in the case of disease nomenclature there is no fraud, while in the commercial matter there is.

MAGGI'S CONSOMMÉS.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly inform me of the nature of "Maggi's consommés" mentioned by Dr. Castellote in THE LANCET of Feb. 12th, p. 456, and where they can be obtained?

I am, Sirs, yours faithfully,

Feb. 16th, 1898. C.H.

*** Our correspondent will find a notice of Maggi's Consommés in the Analytical Record published in THE LANCET of June 6th, 1896.—ED. L.

A MODEL COTTAGE HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly inform me of any cottage hospital in this country, up to date in all its arrangements, the plans of which might be taken as a model for the building of a cottage hospital of eight beds, including two private beds?

I am, Sirs, yours faithfully,

Feb. 14th, 1898. R.

A NEW BICYCLE.

LEAVING that most objectionable person colloquially known as the "scorcher" out of the question, it will be admitted that the erect position is the most comfortable one on a bicycle for most persons and it is certainly the most æsthetic. From this point of view Mr. Bullen, of 17, Thorncombe-road, East Dulwich, has invented a machine called the "Orthobaton" in which the front handle-bar is dispensed with, the steering being effected by turning a ▭-shaped handle at the side which by a simple system of levers communicates with the front wheel. We are glad to notice that the inventor has recognised the importance of having a brake on the back wheel and has affixed to the machines a specially constructed rim brake. A decided advantage which the machine possesses is the ease with which it enables the rider to dismount.

Enquirer.—We understand that an officer can, if he desires it, be professionally attended and treated (at his own expense, of course), by a civilian medical practitioner; but if the officer is rendered unfit for duty by injury or sickness his name has to be placed upon the sick list and removed from it when he is well and fit to return to duty, and this must obviously be done officially by some medical officer duly recognised and appointed for that purpose. The naval or military authorities, as the case may be, require their own medical officers where available to report officially on all matters affecting the health of those serving under them and it is difficult to see how the public services could otherwise be satisfactorily carried on or administered.

W. P. A.—The degree of M.D. London is the harder of attainment, and in that sense must be considered the better. The degree of M.B. London is one stage towards the M.D., for which there is a further examination. The regulations will be found in the London University Calendar. Every M.D. London has been previously an M.B. London. No one is *obliged* to register more qualifications than are necessary to obtain for him a place on the Medical Register; but as the fees for adding additional registrable titles are very low, and as it is important that the Register, which is the official list of the profession, should be correct in detail, it is advisable that medical men should keep the registrar informed of their proper medical style.

R. G.—There are no anatomical distinctions between the skull of the male and that of the female. As a rule, of course, the female skull partakes of the general characteristics of the female skeleton; that is it is smaller and more delicate than the male skull, but to this rule there are very many exceptions on both sides. Consequently, the length of time for which a skull has been buried makes no difference to the difficulty of estimating the sex, except in one way—in a recently buried skull the hair may remain, and if so finding tresses of long hair would in most countries be evidence for a strong presumption that the skull belonged to a woman.

A. C.—There are many institutions where a deaf patient would be looked after, and there are many medical men who would receive such a patient into their houses. Our correspondent does not say how much the patient's friends are prepared to pay.

Student.—(1) Our Students' Number for 1896. (2) No. (3) The introductory articles in the "Medical Directory" in the edition for 1898, p. 20, give information, and consultation of "Whitaker's Almanack" will complete it. (4) The Colonial Office.

J. S.—The family medical attendant can advise. From the statement which is enclosed it appears to us that a distinct debt of gratitude towards this gentleman has already been incurred.

Bradycardia.—A communication has been received at this office dealing with this subject. Post-mark "Paddington." There is no name or address on the MS.

J. Q. J.—The "subject" catalogue of the British Museum Library. The officials will show our correspondent how to obtain admission to the reading-room.

Inverness.—The opening number of this year, dated New Year's Day.

Medicus is advised to share the responsibility with an older man.

W. A. Colles Browne.—The question is too vague for answer.

Gloriana.—There has been a general change of opinion.

R. S.—We do not recommend individual practitioners.

During the week marked copies of the following newspapers have been received: *Hampshire Herald, Cambridge Review, Durham Chronicle, Western Morning News, Scotsman, Birmingham Gazette, Glasgow Herald, Pioneer Mail, Times of India, Midland Free Press, Wigan Examiner, Royal Cornwall Gazette, Ulverston Advertiser, Kentish Express, Huddersfield Chronicle, North British Daily Mail, Norfolk Chronicle, Citizen, Architect, Builder, West Middlesex Herald, Hastings Observer, Liverpool Daily Post, Kettering Guardian, Leeds Mercury, Brighton Gazette, Wolverhampton Chronicle, Blackburn Standard, Ilfracombe Chronicle, Wiltshire County Mirror, Yorkshire Post, Leicester Post, Southampton Observer, Bristol Mercury, Manchester Guardian, Sussex Daily News, Essex County Chronicle, Bury Guardian, Grantham Journal, Dundee Advertiser, Northampton Herald, Sanitary Record, Reading Mercury, Mining Journal, Hertfordshire Mercury, Times of Natal, Surrey Advertiser, Local Government Journal, Local Government Chronicle, Cork Examiner, Westminster Gazette, Nottinghamshire Guardian, City Press, Finchley Free Press, West Middlesex Herald, Monitor, Christian World, United Ireland, Lightning, North Bucks Times, Clapham Observer, Eastern Telegraph, Darwen News, &c., &c.*

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